Digital Matrix Intercom
Innovating the Future of Communications

Zeus III Matrix Intercom

User Manual

Up to and including version 1.0.0

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THE LIGHTNING FLASH AND ARROWHEAD WITHIN THE TRIANGLE IS A WARNING SIGN ALERTING YOU OF "DANGEROUS VOLTAGE" INSIDE THE PRODUCT.	CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.	THE EXCLAMATION POINT WITHIN THE TRIANGLE IS A WARNING SIGN ALERTING YOU OF IMPORTANT INSTRUCTIONS ACCOMPANYING THE PRODUCT
SEE MARKING ON BOTTOM/BACK OF PRODUCT		
WARNING: APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.		
WARNING: THE MAIN POWER PLUG MUST REMAIN READILY OPERABLE.		
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, GROUNDING OF THE CENTER PIN OF THIS PLUG MUST BE MAINTAINED.		
WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPRATUS TO RAIN OR MOISTURE.		
WARNING: TO PREVENT INJURY, THIS APPARATUS MUST BE SECURELY ATTACHED TO THE FLOOR/WALL/RACK IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS.		
∿	This product is AC only.	

CE This product meets Electromagnetic Compatibility Directive 89/336/EEC.

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

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CHAPTER 1

Introduction

General Description

Introducing a totally re-engineered Zeus Intercom System—Zeus III is the next generation of small intercom system units, giving smaller systems more options for their intercom configurations. We now have 32 channels IN/OUT and two (2) configurable party-line channels. This system is excellent for smaller installations, as well as **OB** (Outside Broadcast) vans. Its compact size is perfect for small environments with limited space. With the addition of Ethernet, the Zeus III can be configured from virtually anywhere on the network using AZedit Intercom software. Alternatively, the Zeus III can be directly connected to AZedit through the use of the USB connector on the front panel. The Zeus II's 24 DB-9 connectors have been replaced with 32, RJ-45 connectors.

Features

Redundant Power Supplies	The unit comes with two (2) completely independent power supplies powered from separate **AC** (Alternating Current) feeds. Because of the extremely low power consumption, the use of **UPS** (Uninterruptible Power Supply) units is possible.
USB Port	The **USB** (Universal Serial Bus) port is used for the AZedit Intercom software system configuration.
Trunk Capable	Using the dedicated DB-9 trunk connector with standard RS485 protocol, the Zeus III is able to communicate in a trunked system.
10 Additional Audio Channels	Expanding on the Zeus II's 24-channel unit, we have added 10 additional audio channels to the Zeus III; eight (8) channels of audio IN and OUT, as well as two (2) channels that can be configured for party line use. The two (2) party-line channels interface two separate 2-wire lines to 4-wire lines. From the front panel, it can be configured for RTS, Audiocom (Balanced), or ClearCom (Unbalanced) mode.
Remote Configuration	With the addition of Ethernet to the Zeus III unit, you can now remotely configure your Zeus III intercom system using the AZedit Intercom System software.
Dynamic Keypanel	Addressing Zeus III now automatically addresses keypanels when they are connected to the Zeus III frame. This eliminates the need for setting keypanel addresses and maintaining port allocations.
Relays	New relay connection supports Relay 1 and Relay 2.
Simultaneous Download	Faster downloads to multiple ports supporting the same type of keypanels.

Reference View

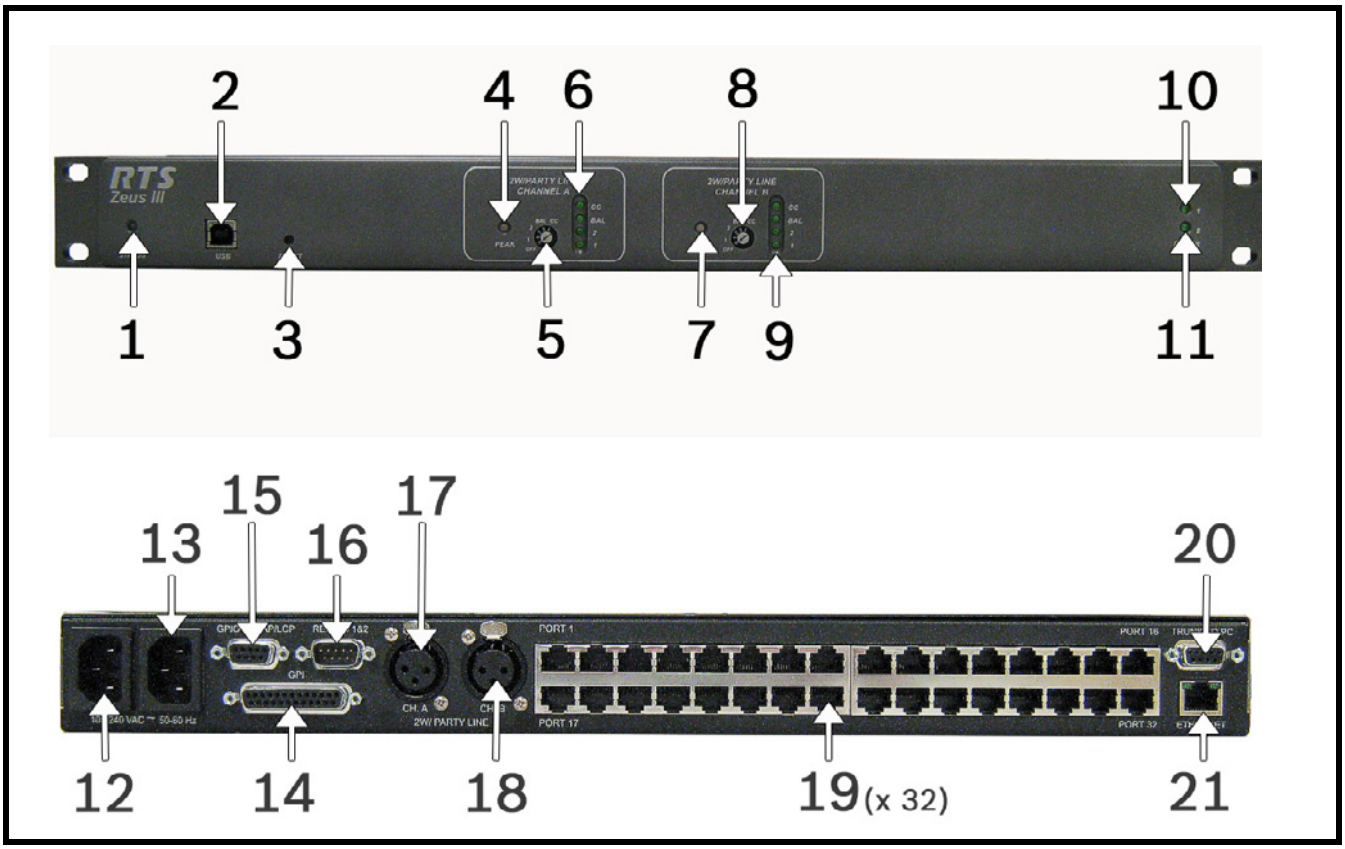


FIGURE 1. Zeus III Front and Rear Reference View

1. *Status LED* - 2-color status LED, for a more detailed description see “Status LEDs” on page 12.
2. *USB Connector*
3. *Recessed Reset Button* - Resets the Zeus III to its default configuration.
4. *Channel A Peak LED* - If within the normal range of operation, the LED lights green, if the operating range is above the normal range the LED lights red. For more information, see “CH A and CH B 2W/Party Line LEDs and Controls” on page 13.
5. *Channel A Channel Selector* - Using a flathead screwdriver, turn the indicator to the channel mode you want to operate.
6. *Channel A Channel LEDs* - When lit green, the channel mode is selected.
7. *Channel B Peak LED* - If within the normal range of operation, the LED lights green, if the operating range is above the normal range the LED lights red. For more information, see “CH A and CH B 2W/Party Line LEDs and Controls” on page 13.
8. *Channel B Channel Selector* - Using a flathead screwdriver, turn the indicator to the channel mode you want to operate.
9. *Channel B Channel LEDs* - When lit green, the channel mode is selected.
10. *Power 1 LED* - When lit green, power supply 1 is operating normally. When unlit, the power supply is bad.
11. *Power 2 LED* - When lit green, power supply 2 is operating normally. When unlit, the power supply is bad.
12. *AC Connector*
13. *AC Connector*
14. *GPI Connector* - 25-pin Female connector. For pin outs, see Table 8 on page 16.
15. *GPIO-16/PAP/LCP Connector* - DB-9 Female connector. For pin outs, see Table 5 on page 15.
16. *Relays 1 & 2 Connector* - DB-9 male connector. For pin outs, see Table 6 on page 16.
17. *CH A Connector* - 3-pin XLR Female. For pin outs, see Table 7 on page 16.
18. *CH B Connector* - 3-pin XLR Female. For pin outs, see Table 7 on page 16.
19. *Port Connectors* - 32, RJ-45 port connectors. For pin outs, see Table 2 on page 15.
20. *Trunk/To PC Connector* - DB-9 Female connector. For pin outs, see Table 3 on page 15.
21. *Ethernet Connector* - RJ-45 Connector. For pin outs, see Table 4 on page 15.

MATRIX

Description:

32 keypanel ports, 2-party line ports with call signaling

Conversion:

48.0kHz, 24-bits

Programming:

AZedit via Windows

Memory:

Non-volatile Flash

Communication:

USB and Ethernet interface

AUDIO PERFORMANCE

Keypanel Ports

Signal Type:

Balanced

Nominal Level:

8dBu

Maximum Level:

20dBu

Input Impedance:

22kΩ

Output Impedance:

600Ω

SNR at 20dBu(A-weighted):

>85dB

THD+N at 20dBu, 1kHz (unweighted):

<0.007%

Frequency Response at 20dBu:

within ±1dB from 50Hz - 20kHz

Crosstalk at 20dBu:

< -80dBu

***Note**: All measurements performed using an Audio Precision System 1 Dual Domain System at f=1kHz and Level=20dBu. Measurement bandwidth= 20Hz to 20kHz.*

Party Line Ports

Nominal Operating Levels:

Audiocom: 1 VRMS

RTS/TW/ClearCom: 775mVRMS

Nominal Input/Output:

5kΩ

Frequency Response:

200Hz to 3.5kHz, ±4dB

THD:

<1% at channel output with nominal input

DATA PORTS

Keypanel Data Ports

RS485 with dedicated transceivers for every port.

Peripheral Data Port

RS485 for GPIO-16/LCP-102

Trunk Port

RS485 for Trunking

PC Port

RS232 for AZedit (supports CPL)

USB Port

USB for AZedit

Ethernet Port

10/100Mbps for remote AZedit

Call Signals:

Balanced:

Receive:

20kHz ±100Hz, 100mVrms

Send:

20kHz ±100Hz, 500mVrms

RTS Channel 1 and Channel 2

Receive:

20kHz ±100Hz, 100mVrms

Send:

20kHz ±200Hz, 350mVrms

ClearCom (Unbalanced) (DC-call)

Receive:

4VDC

Send:

12VDC

Controls

Reset Switch:

Accessible from the front panel; recessed.

Power Requirements

AC Input:

90-264VAC 50/60Hz

Power Consumption

42 Watts (Full Load)

Physical Dimension

1.72” H x 19” W x 15” D
(4.37cm H x 48.26cm W x 38.1cm D)

Weight

7.0lbs (3.18kg)

NOTE: It is recommended to mount the Zeus III with a half inch (1/2”) spacing on the top and bottom of the unit to allow for proper air flow.

Status LEDs

When the Zeus III powers on each time, the Status LED, located on the front panel (see Figure 2), cycle through a three (3) color sequence as it verifies the Zeus III is working properly. The LED color cycle starts with Red, goes to Orange, and ends with Green.

Red - System Malfunction

Orange - Boot Load Mode

NOTE: If Switch S1-7 is set to ON (Force Boot Loader Mode, see Table 9 on page 19) and the Zeus III unit is powered on, the LED stays at the Orange level of the color cycle, indicating you are in boot loader mode.

Green - Normal Operation

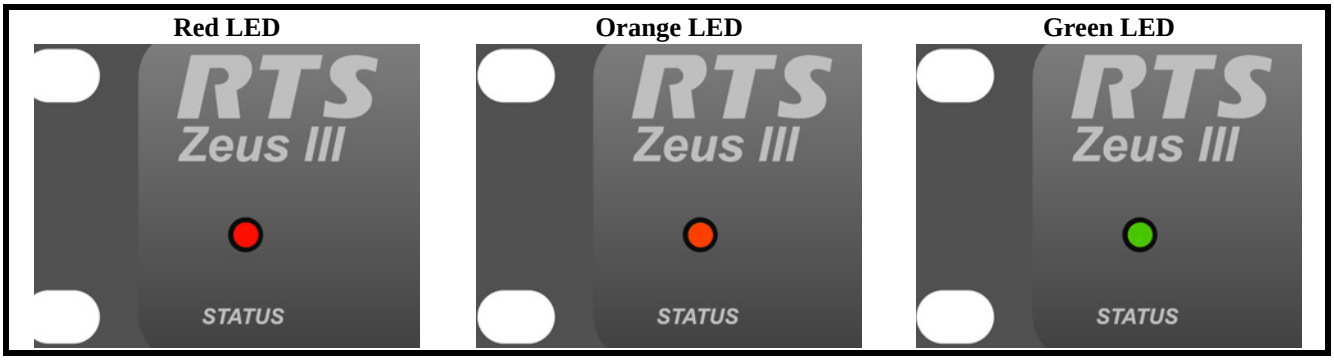


FIGURE 2. Red LED Status, Orange Status, and Green Status Indicator

CH A and CH B 2W/Party Line LEDs and Controls

The **CH A and CH B 2W/Party Line LEDs and Controls** are used to configure dual-channel party line interface. Ports 33 and 34 in the intercom system are designated as the 2-wire party line channels. For more information on party line operation, see “Party Line Operation” on page 43.

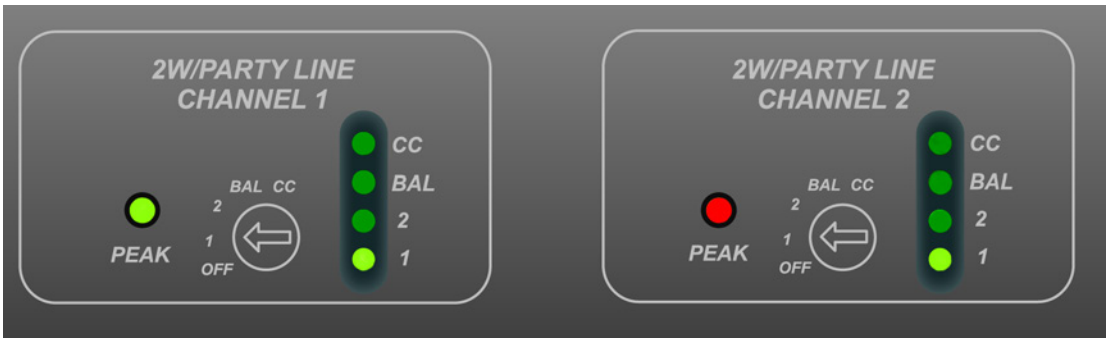


FIGURE 3. CH A and CH B 2W/Party Line LEDs and Controls

Peak LED Indicator

The **Peak LED** indicator displays if the party line channel or 2-wire channel is operating within the normal operating levels.

- When the level is less than -12dBu, the LED is off.
- When the level is between -12dBu to 1dBu, the LED is green.
- When the level is greater than 1dBu, the LED is red.

2-Wire Mode Rotary Switch

The **2-Wire Mode Rotary Switch** is used to select the 2-wire mode you want to configure your party line channel.

Available options are:

OFF -	No modes are active
1 -	RTS Channel 1 mode
2 -	RTS Channel 2 mode
Audiocom (Balanced) -	Audiocom Mode
ClearCom (Unbalanced) -	ClearCom mode. Unbalanced with DC call

To **change the 2-Wire Mode**, do the following:

1. Using a flathead screwdriver, insert the **head** into the rotary switch slot.
2. Turn the **flathead screwdriver** until the arrow is pointing to the mode you desire.
   The corresponding green LED (to the right) lights, designating your selection.

2-Wire Mode LED Indicators

The **2-Wire Mode LED** indicators signal which 2-wire mode is currently active. When a mode is active, the green LED next to it lights.

Power 1 and Power 2 LED

The Zeus III has two (2) power supplies powered by independent AC feeds. This allows for full power failover protection if one of the power supplies stops working.

Green LEDs located on the front panel (see Figure 4) indicates whether the power supply is working properly or is broken.

- When the green LED is lit, the power supply is working properly.
- When the green LED is not lit, the power supply is not working properly.

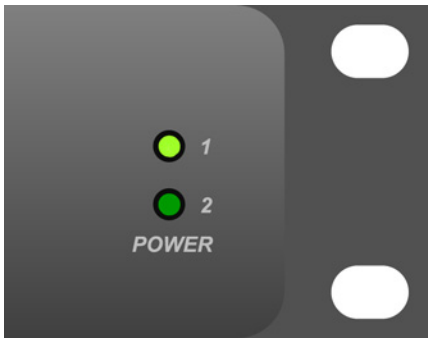


FIGURE 4. Power 1 and Power 2 Status LEDs

Connector Pinouts

TABLE 1. USB Connector Pin Out

Front USB Standard Type B	
Pin	**Function**
1	V_BUS
2	D -
3	D +
4	GND

TABLE 2. Keypanel Port Connector Pin Out

Rear Keypanel Port (32) RJ–45(Cat5)	
Pin	**Function**
1	N/C
2	RS485 Data -
3	Audio Out +
4	Audio In +
5	Audio In -
6	Audio Out -
7	RS485 Data +
8	N/C

TABLE 3. Trunking / To PC Connector Pin Out

Trunking/ To PC Connection DB–9 Female	
Pin	**Function**
1	RS485 Data -
2	RS232 RX
3	RS232 TX
4	N/C
5	GND
6	RS485 Data +
7	GND
8	N/C
9	N/C

TABLE 4. Ethernet Connector Pin Out

Ethernet RJ–45(Cat5)	
Pin	**Function**
1	TX +
2	TX -
3	RX +
4	-
5	-
6	RX -
7	-
8	-

TABLE 5. GPIO-16/LCP/PAP Connector Pin Out

Peripheral Data Port (GPIO-16, LCP-102, Etc.) DB–9 Female	
Pin	**Function**
1	RS485 Data -
2	GND
3	N/C
4	GND
5	N/C
6	RS485 Data +
7	GND
8	N/C
9	N/C

TABLE 6. Relay Connector Pin Out

Relays DB–9 Male	
Pin	**Function**
1	Relay 1:NC[1]
2	Relay 1:NO[1]
3	+12V through 300Ω
4	Relay 2:NC[2]
5	Relay 2:NO[2]
6	Relay 1:Common[1]
7	GND
8	GND
9	Relay 2:Common[2]

1. Relay 1 is also controlled by GPI Output #1
2. Relay 2 is also controlled by GPI Output #2

TABLE 7. Party Line Connector Pin Out

Party Line (2) 3-Pin Female XLR				
	RTS CH1	**RTS CH2**	**Audiocom (Balanced)**	**Clear Com (Unbalanced)**
Pin	**Function**	**Function**	**Function**	**Function**
1	Common	Common	Common	Common
2	Audio +CALL signal		CH1 Audio Low +Call	
3		Audio +CALL signal	CH1 Audio High +Call	Audio + DC Call

TABLE 8. GPI Connector Pin Out

GPI DB-25 Female	
Pin	**Function**
1	GPI Input #1
2	GPI Input #2
3	GPI Input #3
4	GPI Input #4
5	GPI Input #5
6	GPI Input #6
7	GPI Input #7
8	GPI Input #8
9	GND
10	GND
11	GND
12	GND
13	GND
14	GPI Output #1[1]
15	GPI Output #2[2]
16	GPI Output #3
17	GPI Output #4
18	GPI Output #5
19	GPI Output #6
20	GPI Output #7
21	GPI Output #8
22	GND
23	GND
24	GND
25	GND

1. Control for GPI Output #1 also controls relay 1.
2. Control for GPI Output #2 also controls relay 2.

Dip Switches

To **access the dip switches in the Zeus III unit**, do the following:

1. Using a Phillips head screwdriver, remove the **four (4) top screws** (see Figure 5).

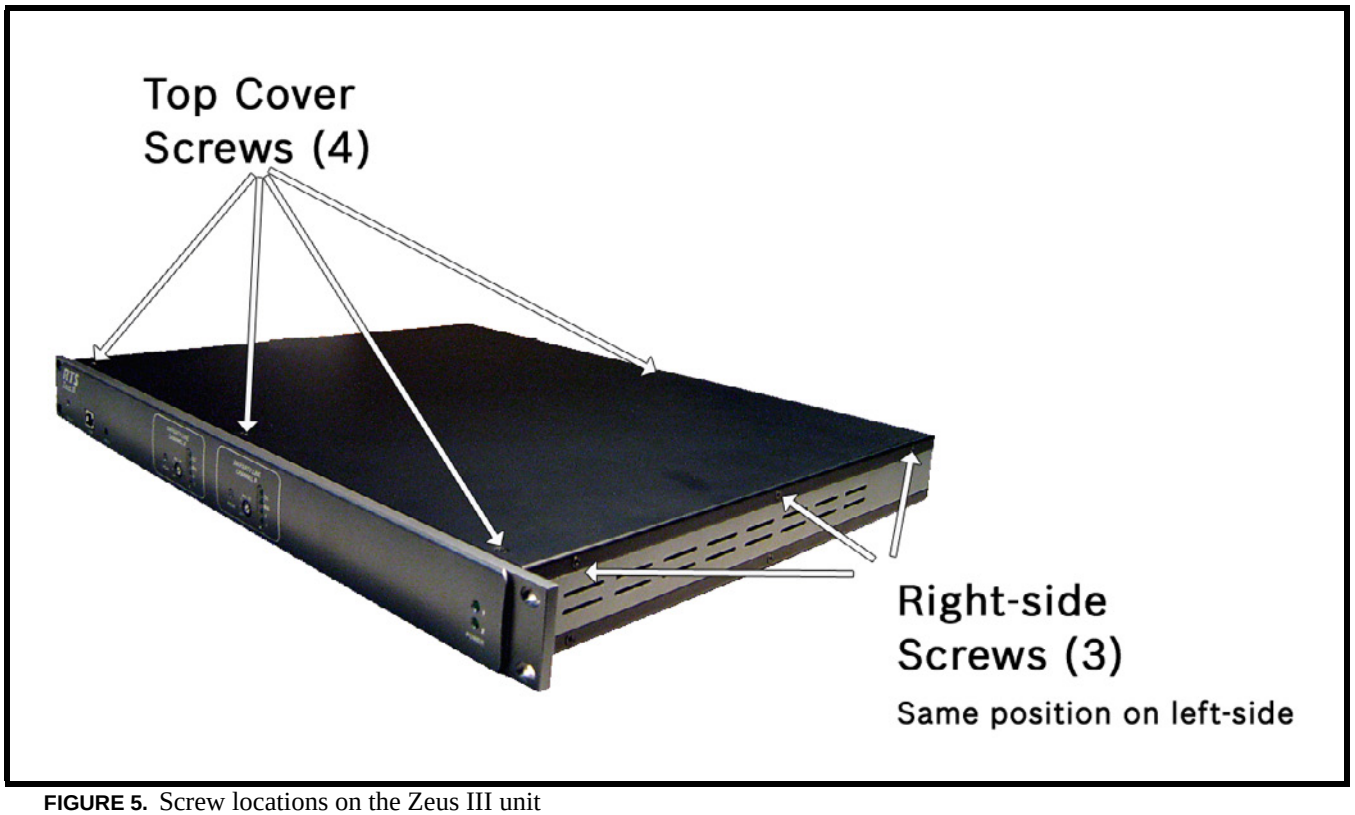


FIGURE 5. Screw locations on the Zeus III unit

2. Remove the **three (3) screws located on the right-side** of the unit.
3. Remove the **three (3) screws located on the left-side** of the unit.
4. Carefully remove the **top cover panel** and set it to the side.
5. Using Figure 6, locate the **dip switch** you want to configure.
6. Using Table 9 on page 19 or Table 10 on page 20, configure the **dip switch** as required.

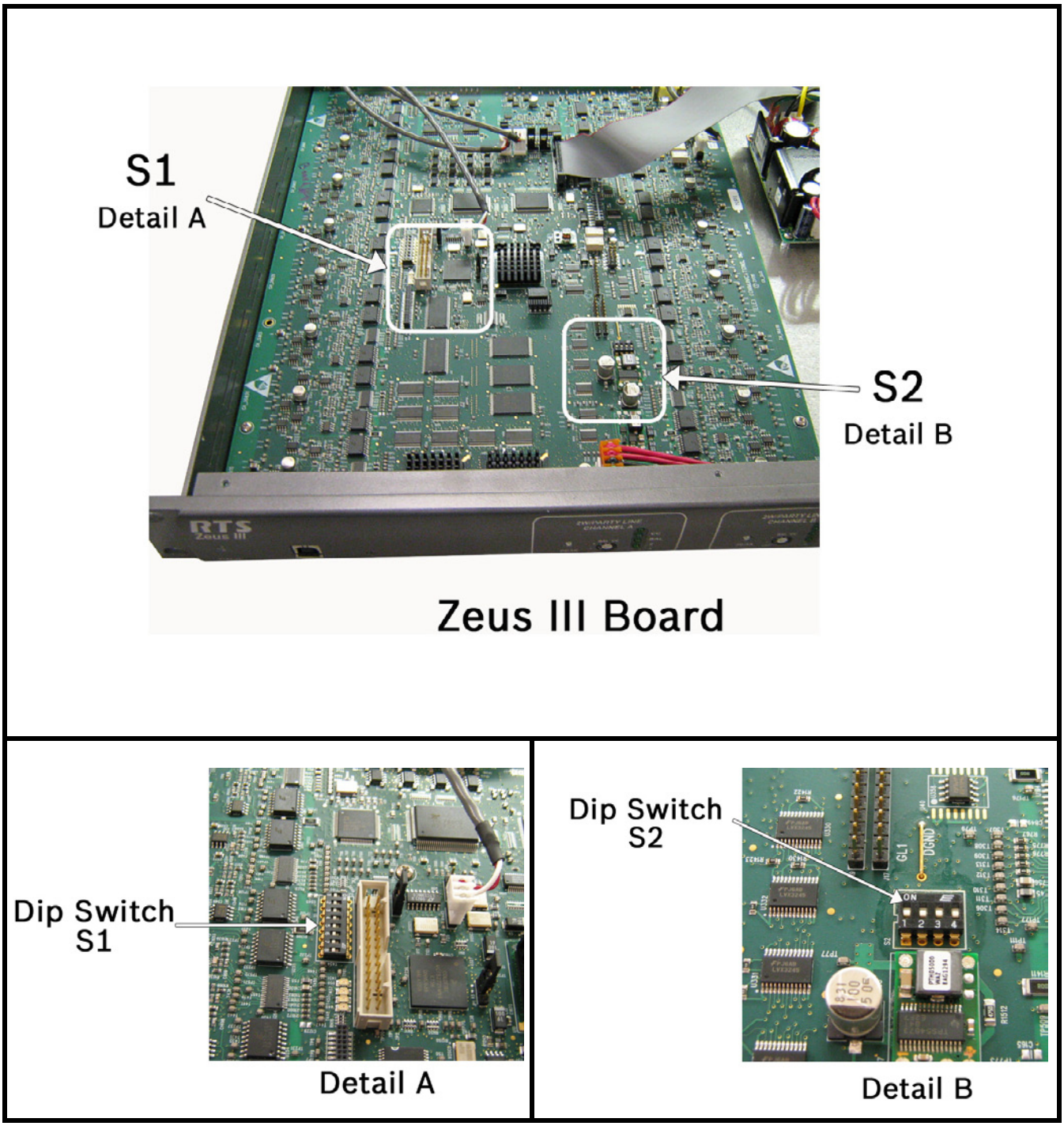


FIGURE 6. Dip Switch Locations

S1 Dip Switch

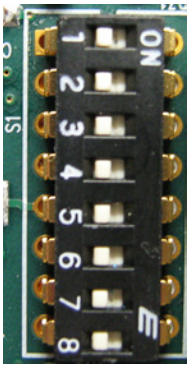


FIGURE 7. S1 Dip Switch

TABLE 9. Dip Switch S1 Reference

Dip Switch	Description	Default Setting
1	Serial Baud Rate Set[1] Off = 9600 baud On= 38.4k	Off
2	Authentication Not Required when using USB Connection Off = Authentication not required On = Authentication required when using the USB connection	Off
3	Reserved, Do Not Modify	Off
4	Reserved, Do Not Modify	Off
5	Reserved, Do Not Modify	Off
6	Reserved, Do Not Modify	Off
7	Force Boot Loader Mode Off = normal mode On = force boot loader mode	Off
8	Reserved, Do Not Modify	Off

1. *Make sure the rate set here matches the rate set in AZedit. A 9600 baud permits a longer PC cable, but uploads and downloads are slower (approximately 30 seconds for a complete system update). Alternatively, 38.4 kbaud provides faster uploads and downloads, but the PC cable should be kept to a length less than 10 ft (3m), and some older PC's may not operate reliably at this speed.*

S2 Dip Switch

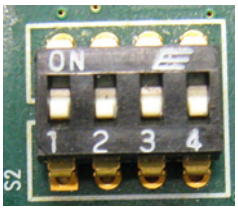


FIGURE 8. S2 Dip Switch

TABLE 10. S2 Dip Switch Reference

Dip Switch	Description	Default Setting
1	Noise Suppression on 2-Wire Port 1 Off = disable noise suppression on 2-wire port 1 On = enable noise suppression on 2-wire port 1	Off
2	Half-Duplex Mode on 2-Wire Port 1 Off = enable half-duplex mode on 2-wire port 1 On = disable half-duplex mode on 2-wire port 1	Off
3	Noise Suppression on 2-Wire Port 2 Off = disable noise suppression on 2-wire port 2 On = enable noise suppression on 2-wire port 2	Off
4	Half-Duplex Mode on 2-Wire Port 2 Off = enable half-duplex mode on 2-wire port 2 On = disable half-duplex mode on 2-wire port 2	Off

2-Wire Settings in AZedit

The 2-Wire Setting window, showin in Figure 9, is used to override the DIP switch settings you set on the Zues III unit (see “Dip Switches” on page 17) using AZedit.

NOTE: CH-A or CH-B must be selected for the 2-Wire Settings page to be available.

NAVIGATION: On the Keypanel / Ports Window, select the **Edit** button (see Figure 10).

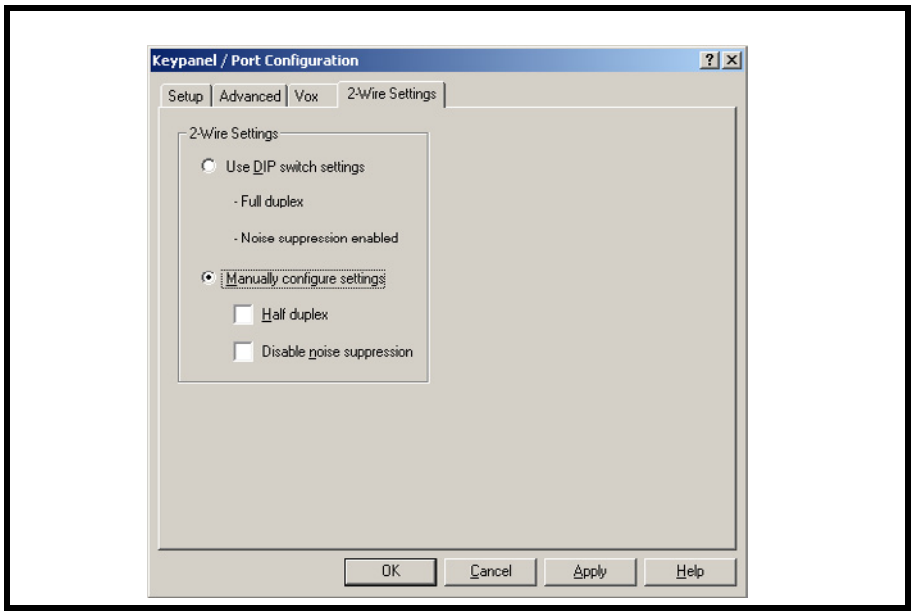


FIGURE 9. 2-Wire Settings Page

2-Wire Settings Group Box

Use the **2-Wire Settings** options to either use the currently set DIP switches, as set in the Zeus III or to override the DIP switch settings for the selected channel. You can set CH-A and CH-B independent from each other, if desired.

Use DIP Switch Settings Radio Button

The **Use DIP Switch Settings** radio button indicates the currently set DIP switch settings should be used. The current settings are displayed below the radio button.

Manually Override Settings Radio Button

The **Manually Override Settings** radio button allows the user to select override options to the currently set DIP switch options. Once the Manually Override Settings radio button is selected, the override options check boxes become active below the radio button.

Available override check box options are:

Half Duplex Check Box - Half Duplex operation is enabled.

Full Duplex Check Box - Full Duplex operation is enabled. Audio flows in both directions simultaneously.

Disable Noise Suppression Check Box - Noise suppression is disabled.

Enable Noise Suppression Check Box - Noise suppression is enabled.

To **configure the 2-wire settings**, do the following:

1. From the System menu in AZedit, select **Keypanel Assignment**.
   The Keypanel / Ports window appears.

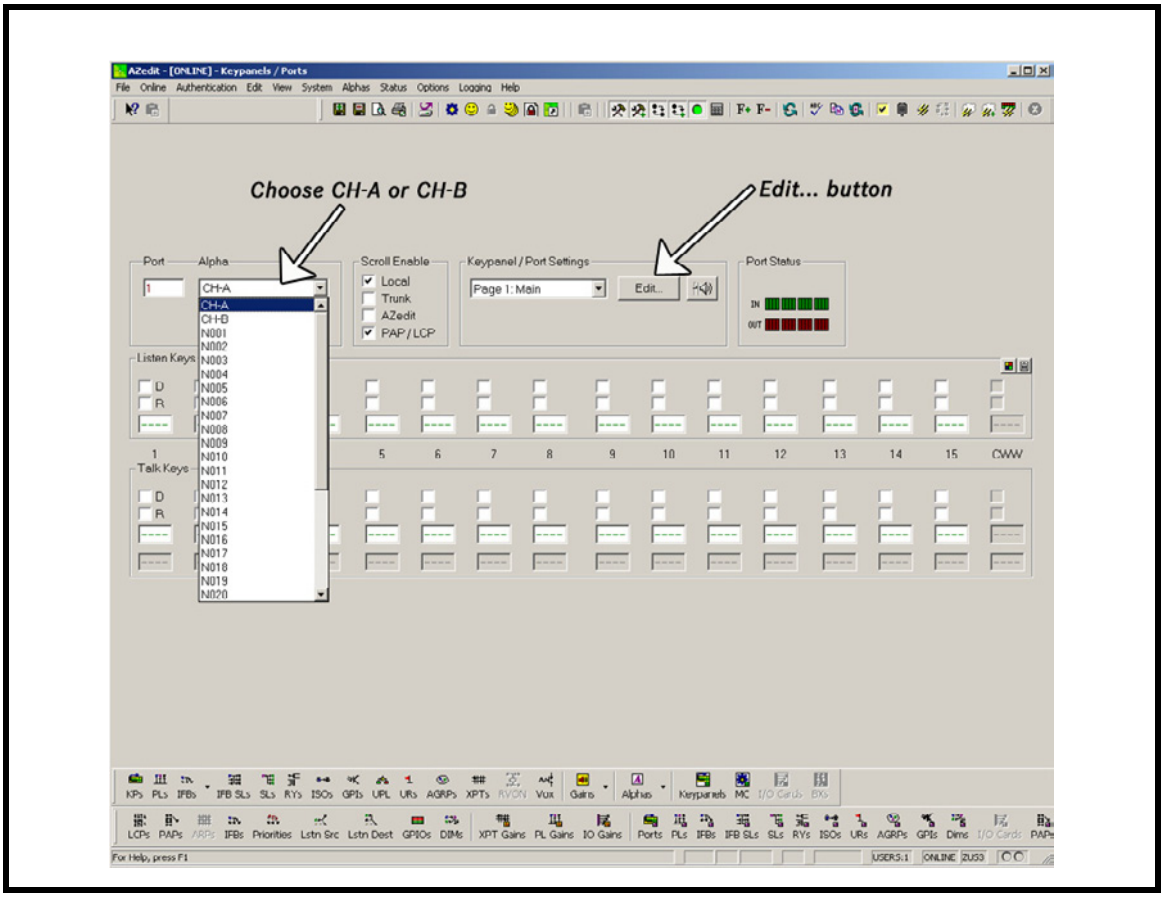


FIGURE 10. Keypanel / Ports Window

2. From the Alphas drop down list, select **CH-A** or **CH-B**.
3. Click **Edit**.
   The Keypanel / Port Configuration Window appears.
4. Click the **2-Wire Settings** tab.
   The 2-Wire Settings page appears.
5. Make the configuration modifications you desire.
6. Click **Apply**.
   The changes are applied.
7. Click **OK**.
   The Keypanel / Port Configuration window closes.
8. Send **Changes** to the Intercom.

Zeus III and GPIO-16

You can connect a GPIO-16 to the Zeus III intercom system. A GPIO-16 provides 16 GPI (**General Purpose Inputs**) and 16 GPO (**General Purpose Outputs**). GPIs can be set up as remotely controlled keypanel keys to activate intercom ports, party lines, GPOs, etc. within the intercom system. GPOs are typically assigned for activation from keypanel keys. They can be used to control lighting or to key remote transmitters, paging systems, etc.

The maximum number of devices that can be connected when using a GPIO-16 are as follows:

- Zeus, Zeus II, and ADAM CS = Four (4) devices (64 relays)
- ADAM, Zeus III and Cronus = 16 devices (256 relays)

NOTE: In the AZedit GPI Output window, Relays 1 – 8 are dedicated to Zeus III GPI Output. In the AZedit GPI Input window, GPI Inputs 1 – 8 are dedicated to Zeus III GPI Inputs.For more information on the GPIO-16, see the GPIO User Manual (9350-7842-000).

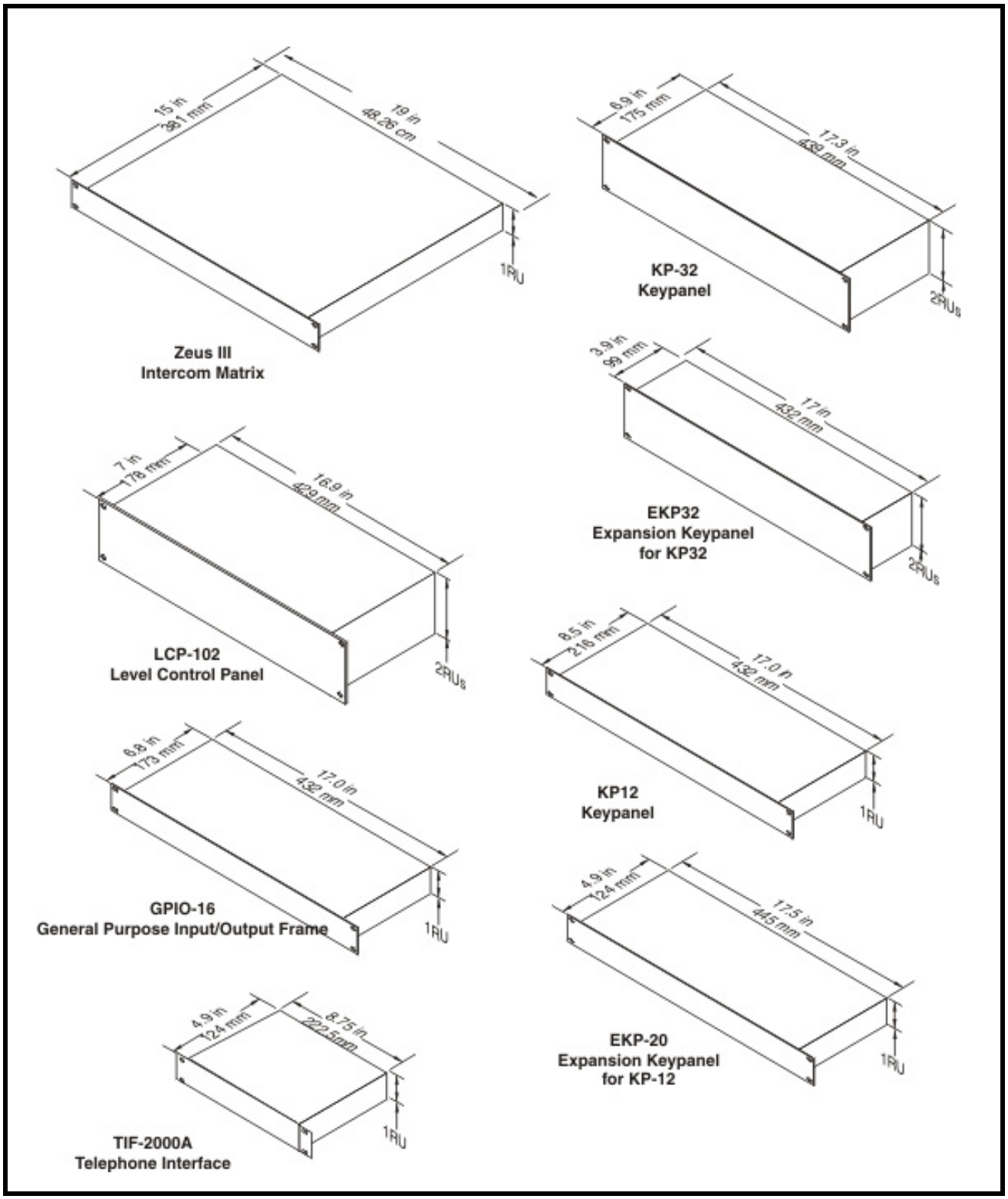


FIGURE 11. Zeus and Accessory Dimensions

NOTE: Front panel rack mounts fit industry standard 19" (483mm) racks and consoles. Dimensions exclude connectors. Allow at least 2 inches (51mm) for cables and connections.

CHAPTER 2

Cables

Each Zeus III intercom system has unique requirements for cables, so it is not practical to apply these with the unit. A USB interconnect cable has been provided, but even this may not be long enough for your system layout requirements. Most cables need to be custom built. The following paragraphs and diagrams contain some useful general information for those who are not familiar with cable construction. Connection diagrams are also included for all of the common types of Zeus III connections.

Cable Requirements

We recommend 22AWG, stranded, twisted pair cable for your connections. For most applications, you can use unshielded cable. Shielded cable is only required when some condition in the environment is inducing noise into the intercom system. For keypanels and the TIF, the cables should have three (3) twisted pairs. To connect 4-wire audio devices, you need two (2) twisted pair cables. The LCP-102 and GPIO-16 require a single twisted pair. Ask your intercom dealer about recommended sources for cabling.

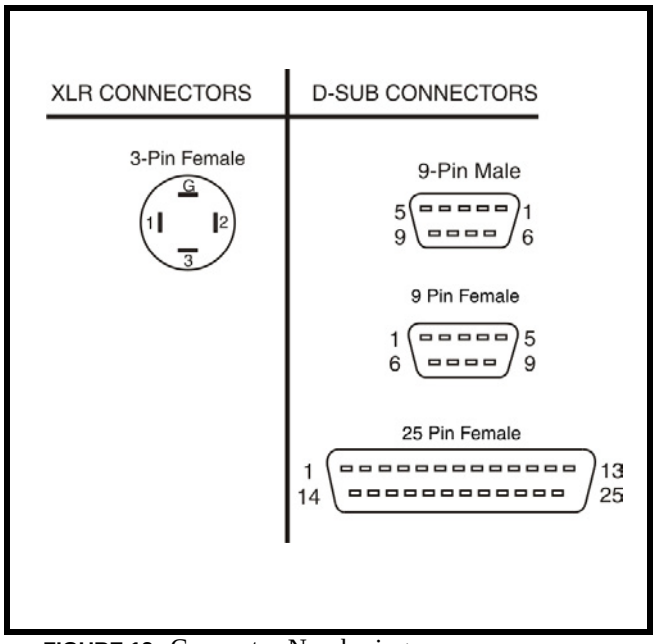


FIGURE 12. Connector Numbering

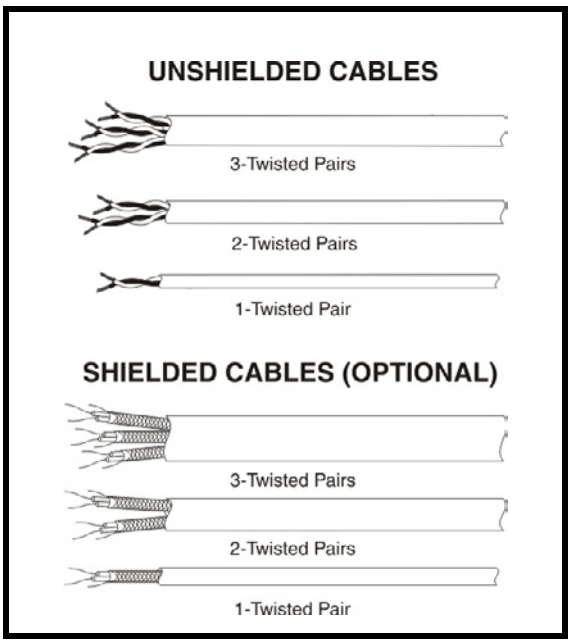


FIGURE 13. Cable Requirements

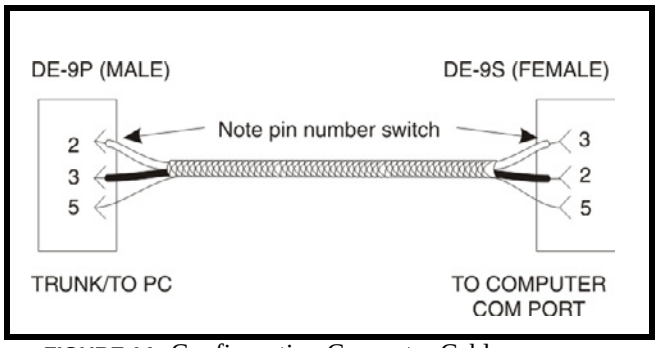


FIGURE 14. Configuration Computer Cable

IMPORTANT: Pins 2 and 3 are switched between the two (2) connectors.

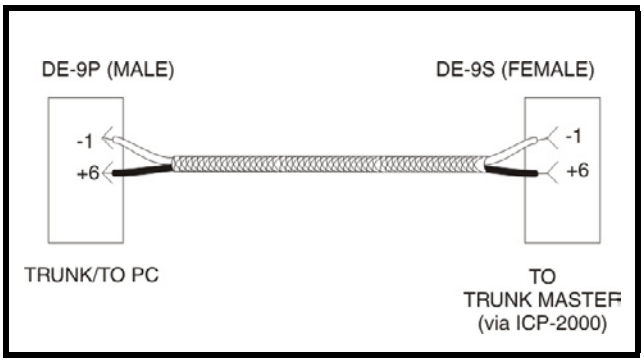


FIGURE 15. Trunking Configuration Cable

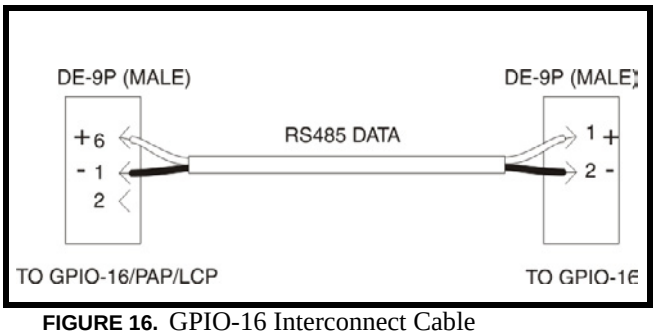


FIGURE 16. GPIO-16 Interconnect Cable

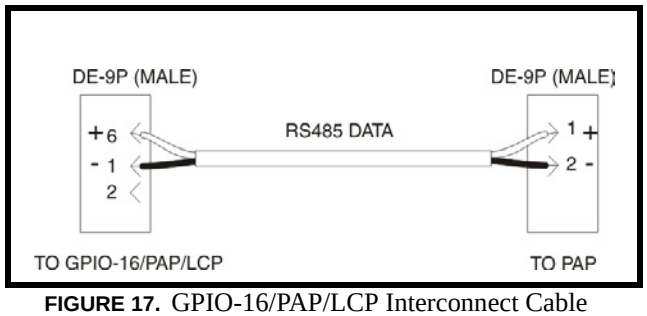


FIGURE 17. GPIO-16/PAP/LCP Interconnect Cable

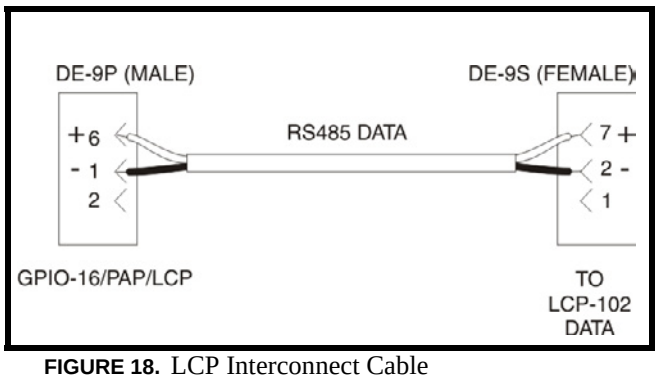


FIGURE 18. LCP Interconnect Cable

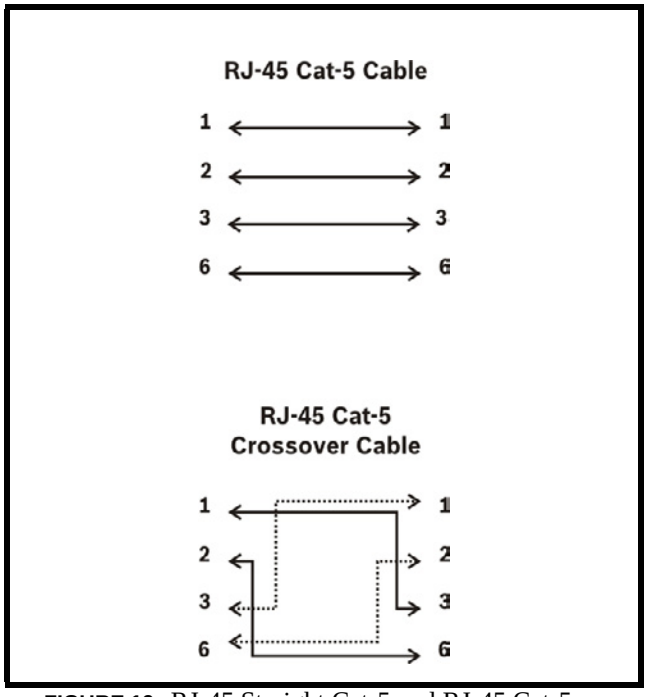


FIGURE 19. RJ-45 Straight Cat-5 and RJ-45 Cat-5 Crossover Cable

Requirements

- AZedit version 3.6.2 or later

Default Ethernet IP Addresses

TABLE 11. Default Ethernet IP Addresses

Product	Default IP Address	Default Subnet Mask
RVON-I/O	192.168.0.1	255.255.0.0
RVON-8	192.168.0.2	255.255.0.0
RVON-1	192.168.0.3	255.255.0.0
RVON-C	192.168.0.4	255.255.0.0
RVON-16	192.168.0.5	255.255.0.0
GPIO-16	192.168.0.6	255.255.0.0
MCII-e	192.168.0.7	255.255.0.0
Cronus	192.168.0.8	255.255.0.0
Zeus III	192.168.0.9	255.255.0.0

Initial Power Up

To **power on the Zeus III unit**, do the following:

1. Attach the **power cord** to the power entry module on the rear of the Zeus III.

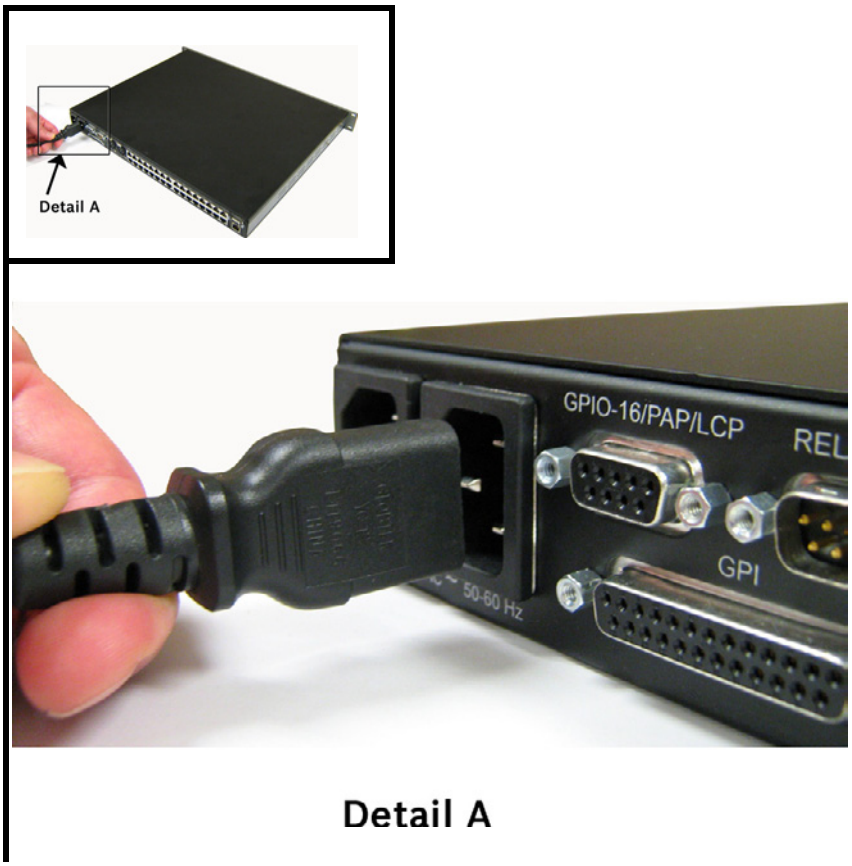


FIGURE 20. Apply power to the Zeus III.

2. Plug the **other end of the power cord** into the electrical outlet.
   The unit powers on. The Status LED, located on the front panel (see Figure 2 on page 12), cycles through a three (3) color sequence as it verifies the Zeus III is working properly. The LED color cycle starts with Red, goes to Orange, and ends with Green.

   NOTE: Repeat **step 1** and **step 2** for redundant power supplies.

There are three (3) configuration types for Zeus III operation:

- RS-232 (serial)
- USB
- Ethernet

NOTE: You can only use one (1) type of communication configuration at a time. For example, if the Zeus III is connecting to AZedit via USB, it cannot also connect over Ethernet at the same time.

Serial Configuration

To **configure the Zeus III for serial configuration**, do the following:

1. Attach a **serial cable to the Trunk/To PC connector** on the rear of the Zeus III.

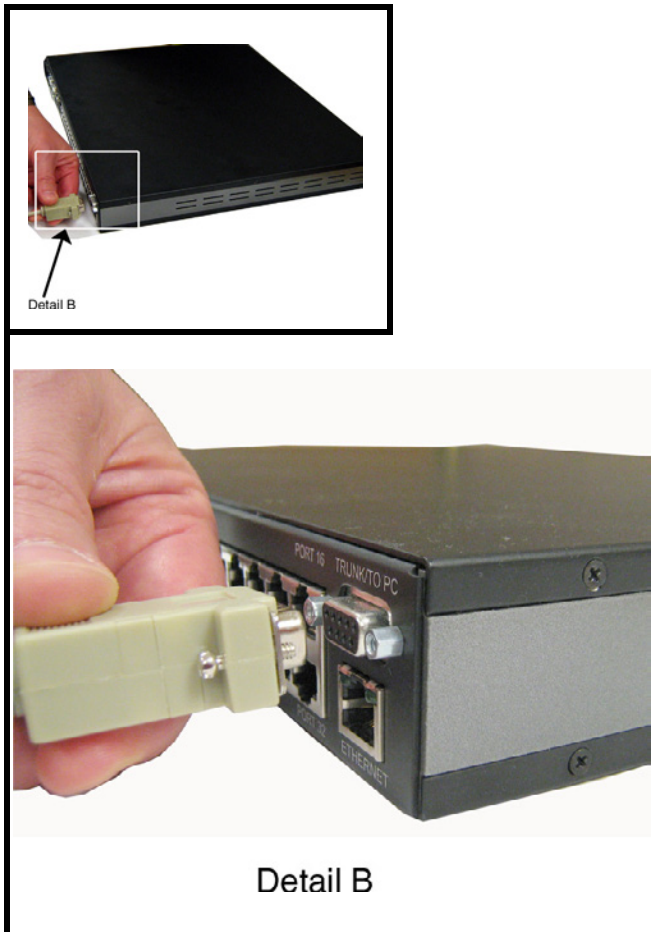


FIGURE 21. Serial Connector

2. Attach the **other end of the serial cable to any available serial connector** on the computer with AZedit loaded on it.

3. In AZedit, from the Options menu, select **Communications**.
   The Communications window appears.

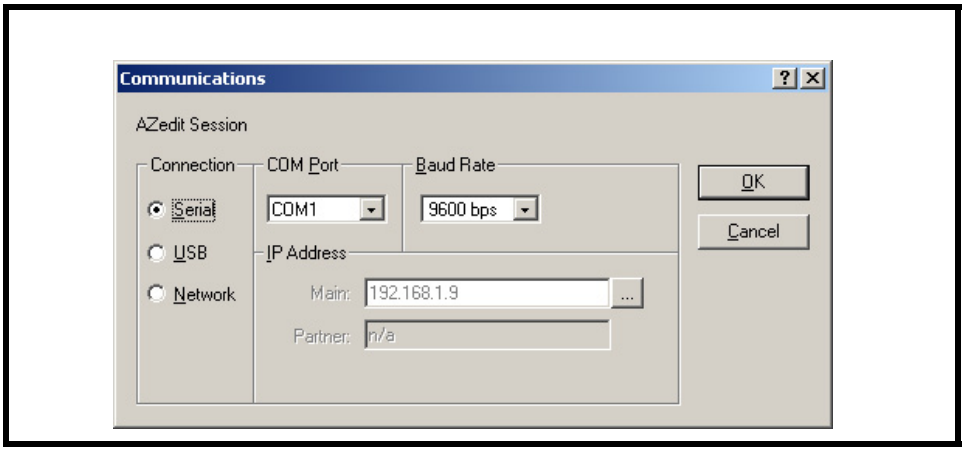


FIGURE 22. Serial Connection – Communications Window

4. Select the **Serial** radio button.
5. Click **OK**.
   The Zeus III is configured to connect to AZedit serially.

USB Configuration

NOTE: If you are configuring a USB connection for the first time, you must manually navigate to the USB drivers at C:\Telex\AZedit\USB.

To **configure the Zeus III for USB configuration**, do the following:

1. Attach the **supplied USB cable to the USB connector** located on the front of the Zeus III.

FIGURE 23. USB Connector

2. Attach the **other end of the USB cable to any available USB connector** on the computer with AZedit loaded on it.
3. In AZedit, select **Options|Communications**.
   The Communications window appears.

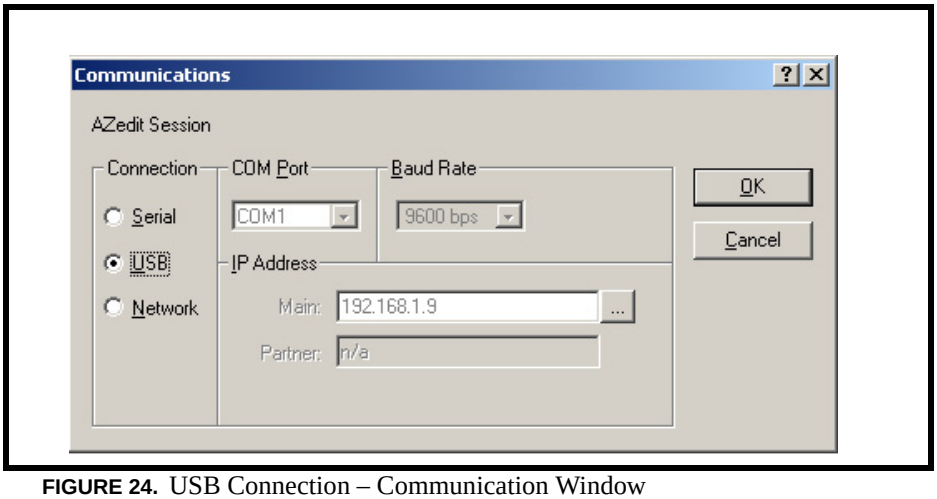


FIGURE 24. USB Connection – Communication Window

4. Select the **USB** radio button.
5. Click **OK**.
   The Zeus is configured to connect to AZedit via USB.

Ethernet Configuration

There are two (2) ways to connect the Zeus III to AZedit over Ethernet:

- Using a straight CAT-5 Ethernet cable and connecting to an existing IP Network.
- Using a fabricated CAT-5 crossover cable and connecting directly to the AZedit computer. (For the CAT-5 crossover cable pin out, see Figure 19 on page 27.)

NOTE: The straight CAT-5 cable assembly cannot be directly connected to the computer with AZedit loaded on it. It can only be used with a router or switch that is connected to the computer. Use the CAT-5 crossover cable to directly connect to the Zeus III with Ethernet.

To **configure the Zeus III for Ethernet configuration using the supplied Ethernet cable**, do the following:

1. Attach the **Ethernet cable to your existing IP network** using a network router or switch.

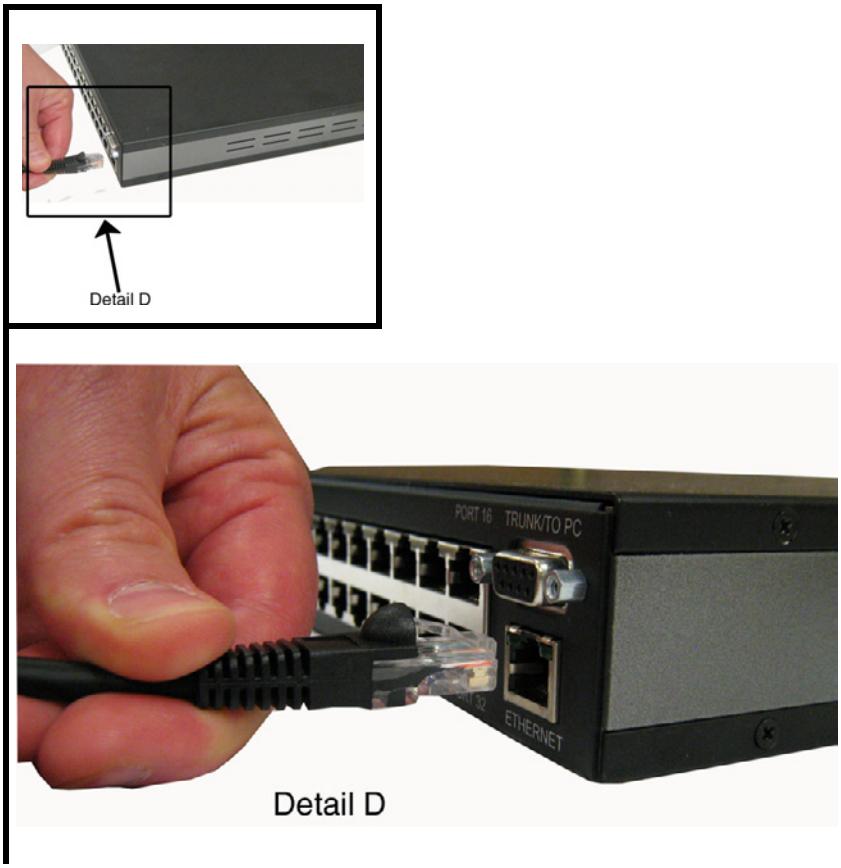


FIGURE 25. Straight Cat-5 Ethernet Connection

2. Attach the **other end of the Ethernet cable to the Ethernet connector** located on the rear of the Zeus III.

NOTE: By default, Zeus III is shipped with the IP Address 192.68.0.9 and the Network Mask 255.255.0.0. To change the IP Address, initially you must connect either serially or via USB.

3. From Options menu, select **Communications**.
   The Communications window appears.

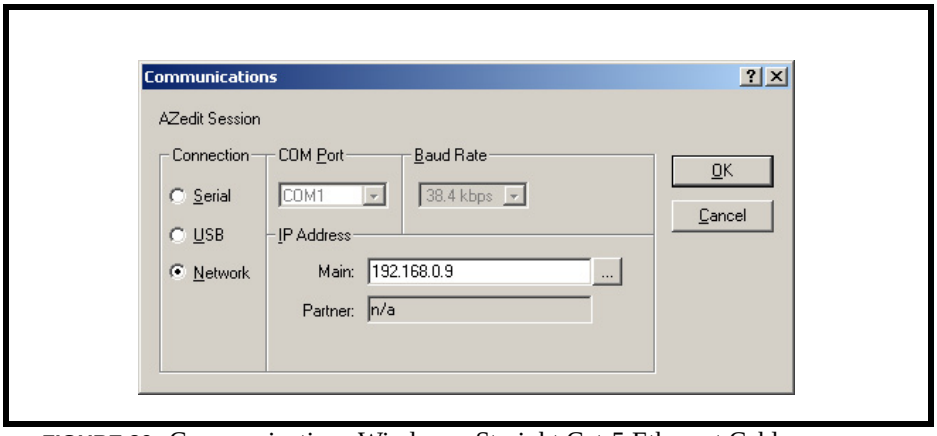


FIGURE 26. Communications Window – Straight Cat-5 Ethernet Cable

4. Select the **Network** radio button.
5. Click the **browse** button.
   The Available Intercoms window appears.

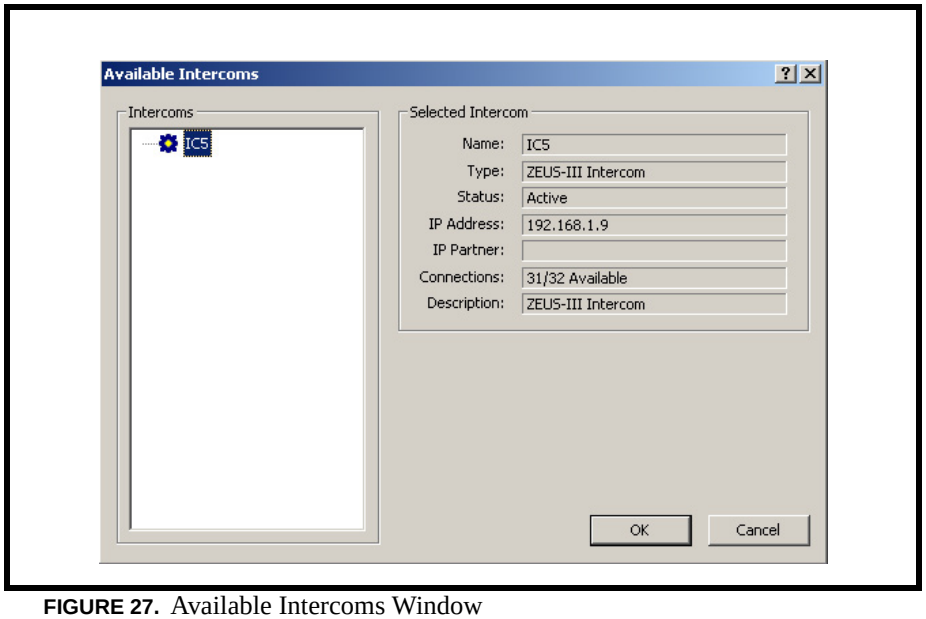


FIGURE 27. Available Intercoms Window

6. From the Intercoms list field, select the **Zeus III intercom** you want to connect to.
7. Click **OK**.
   The Available Intercoms window closes and the Communications window appears.
8. Click **OK**.
   The Communications window closes. The Zeus III is configured for Ethernet operation via the supplied cable.

To **configure the Zeus III for Ethernet configuration using the CAT-5 crossover cable**, do the following:

By default, Zeus III is shipped with the IP Address 192.168.0.9 and the Network Mask 255.255.255.0. To change the IP Address, you must initially connect either serially or via USB. For crossover cable construction, see Figure 19 on page 27.

NOTE: If access to serial port and USB is not available on the host PC, you must configure your TCP/IP properties on the PC to match the Zeus III unit subnet (192.168.0.X) for proper communication.

1. Using the CAT-5 crossover cable, attach **one end to the Ethernet connector** located on the rear of the Zeus III.

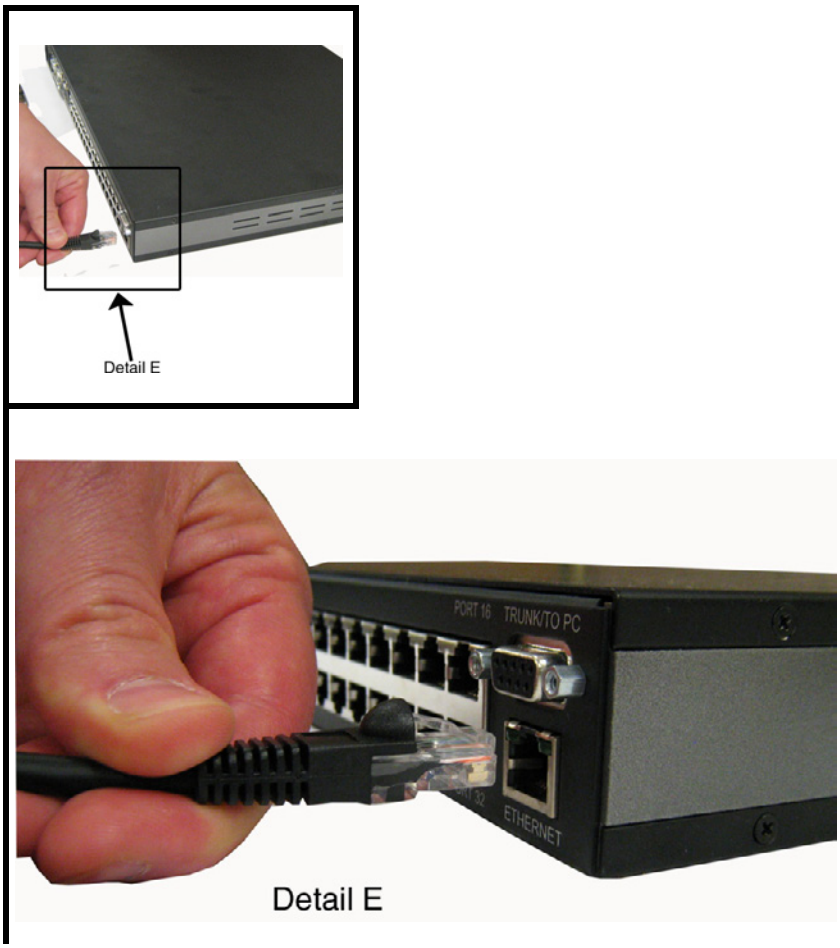


FIGURE 28. Crossover Cat-5 Connection

2. Attach the **other end of the crossover cable to an Ethernet port** on the computer with AZedit loaded.

3. In AZedit, from the Options menu, select **Communications**.
   The Communications window appears.

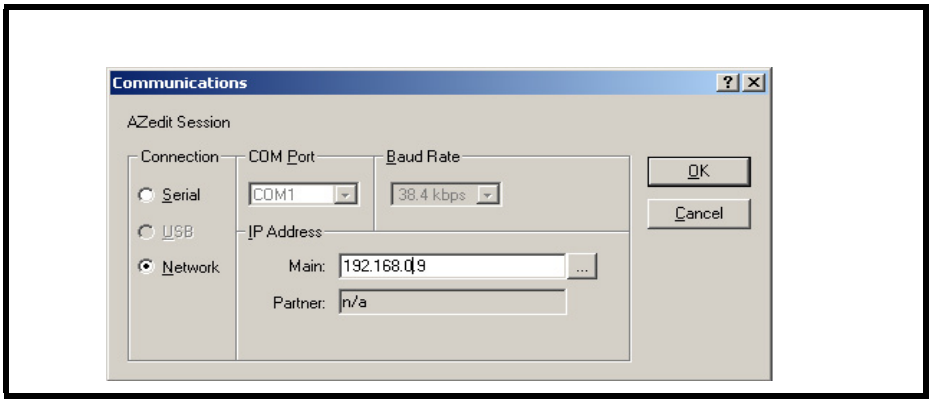


FIGURE 29. Communications Window – CAT-5 Crossover Cable

4. Select the **Network** radio button.
   The IP Address group box becomes active.
5. Click **OK**.
   The Communications window closes. The Zeus III is configured for Ethernet operation via the CAT-5 crossover cable.

Initial IP Configuration of the Zeus III

By default, the Zeus III is shipped with the IP Address 192.168.0.9 and the Net Mask 255.255.255.0. to change the IP Address initially, you must connect either serially or via USB.

1. Connect to the **PC with AZedit** via a serial or USB cable.
2. In AZedit, from the Options menu, select **Ethernet Setup**.
   The Ethernet Setup window appears.

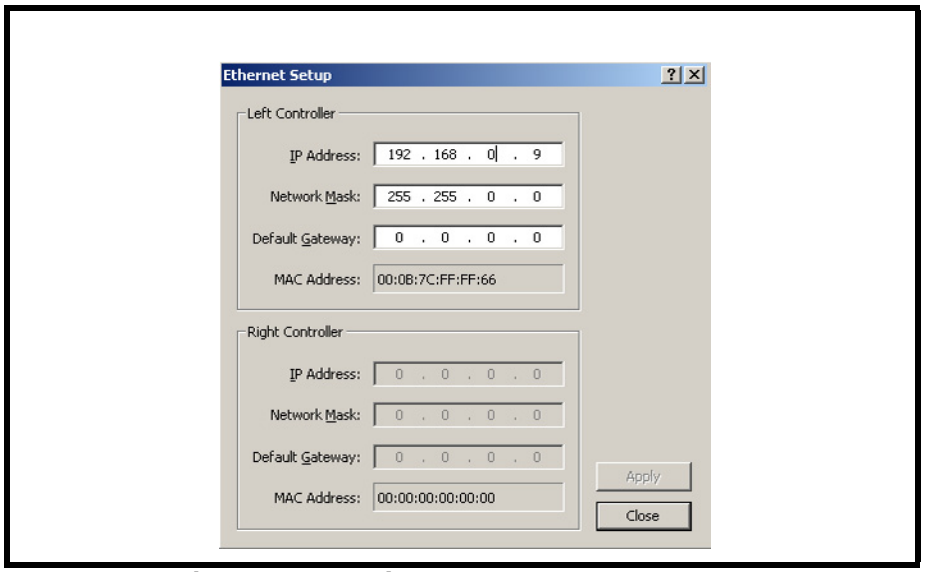


FIGURE 30. Ethernet Setup Window

3. In the IP Address field, enter the **IP Address** for the Zeus III.
4. In the Netmask field, enter the **Netmask Address** for the Zeus III, if needed.
5. In the Gateway field, enter the **Gateway Address** for the Zeus III, if needed.
6. Click **Apply**.
   The IP Address, Network Mask, and Gateway Address are changed.

7. Click **Close**.
The Ethernet Settings window closes.

NOTE: Remember to send your changes to the Matrix. To send changes to the matrix, from the edit menu, select **Send Changes**

2-Wire Channel A and B Configuration

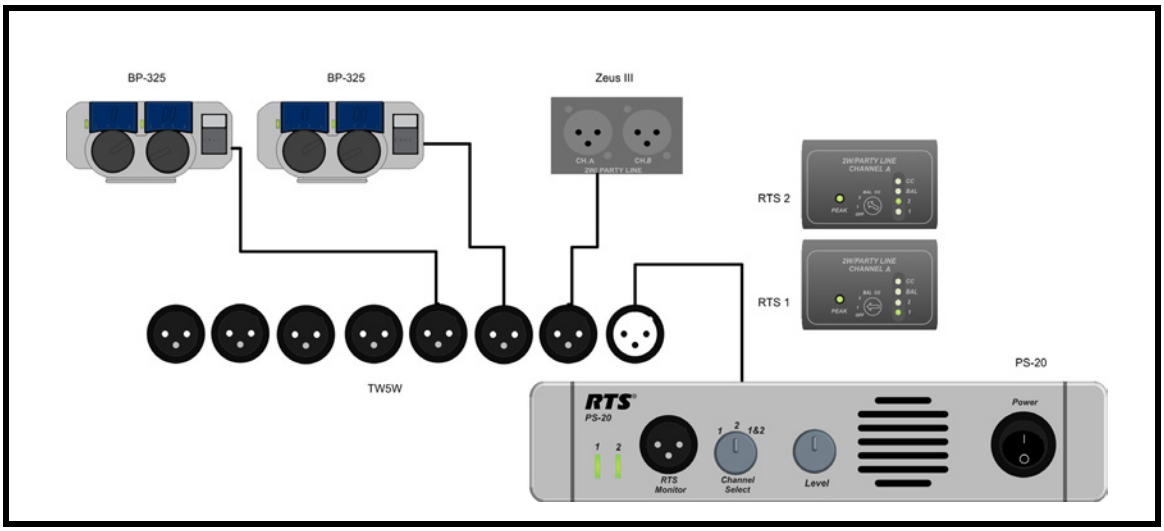


FIGURE 31. 2-Wire Channel A and B Configuration

NOTE: CH A and CH B are not powered by the Zeus III, therefore a power supply must be used for party line channels.

To **configure a typical 2-wire channel A and B system**, do the following:

NOTE: A TW5W or TW7W breakout panel can be used to connect the 2-wire device, power supply and Zeus III unit.

1. Connect the **Zeus III 2-wire party line channel(s)** (CHA and/or CHB) to the breakout panel using a female 3-pin XLR connector.
2. Connect the **2-wire device** to the breakout panel using the specified 3-pin XLR connector.
3. Connect the **power supply** to the breakout panel using the specified 3-pin XLR connector.
4. Depending on the channel being used by the 2-wire device, set the Zeus III 2-wire mode appropriately.

Audiocom (Balanced) Mode Configuration for Single Channel System

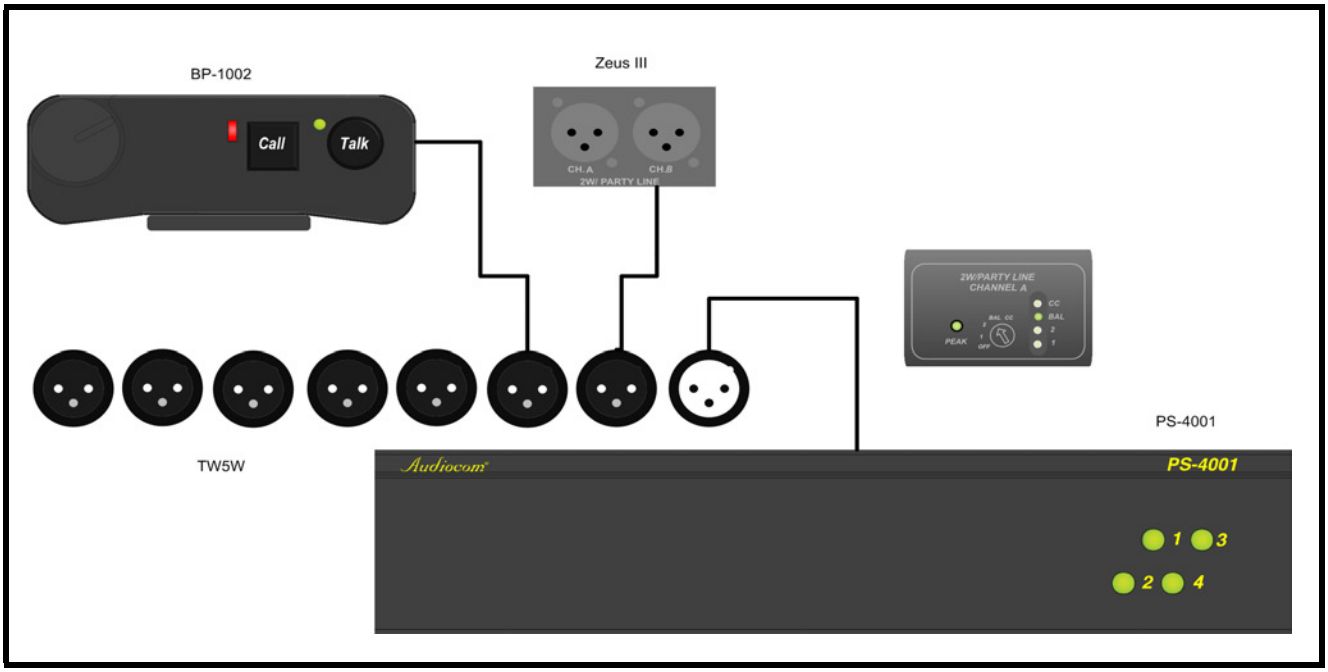


FIGURE 32. Audiocom (Balanced) Mode Configuration for Single Channel System

NOTE: CH A and CH B are not powered by the Zeus III, therefore a power supply must be used for party line channels.

To **configure a typical balanced mode system**, do the following:

NOTE: A TW5W or TW7W breakout panel can be used to connect the 2-wire device, power supply and Zeus III unit.

1. Connect the **Zeus III 2-wire party line channel(s)** (CHA and/or CHB) to the breakout panel using a female 3-pin XLR connector.
2. Connect the **2-wire device** to the breakout panel using the specified 3-pin XLR connector.
3. Connect the **power supply** to the breakout panel using the specified 3-pin XLR connector.
4. Using a small, flathead screw driver, set the **2W/Party Line mode** to balanced.

ClearCom (Unbalanced) Mode Configuration

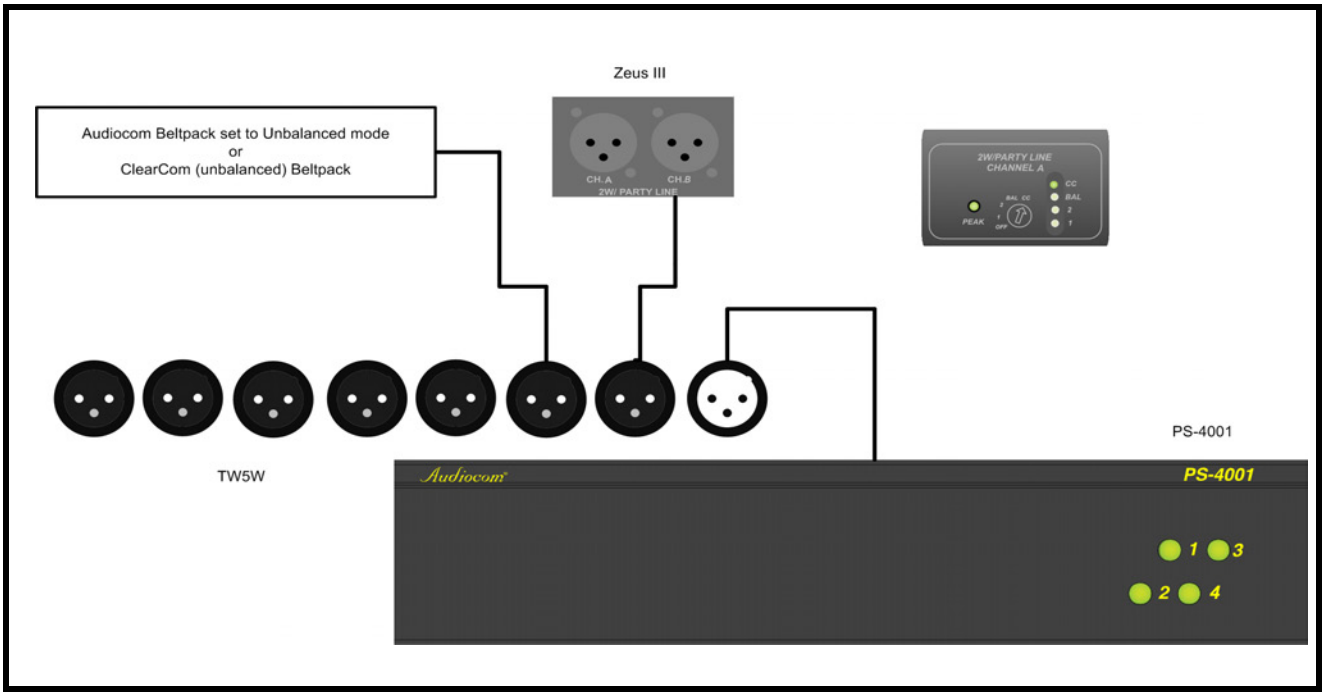


FIGURE 33. ClearCom (Unbalanced) Mode Configuration

NOTE: CH A and CH B are not powered by the Zeus III, therefore a power supply must be used for party line channels.

To **configure a typical ClearCom (unbalanced) mode system**, do the following:

NOTE: A TW5W or TW7W breakout panel can be used to connect the 2-wire device, power supply and Zeus III unit.

1. Connect the **Zeus III 2-wire party line channel(s)** (CHA and/or CHB) to the breakout panel using a female 3-pin XLR connector.
2. Connect the **2-wire device** to the breakout panel using the specified 3-pin XLR connector.
3. Connect the **power supply** to the breakout panel using the specified 3-pin XLR connector.
4. Using a small, flathead screw driver, set the **2W/Party Line mode** to Clear Com (unbalanced).

Keypanel Configuration

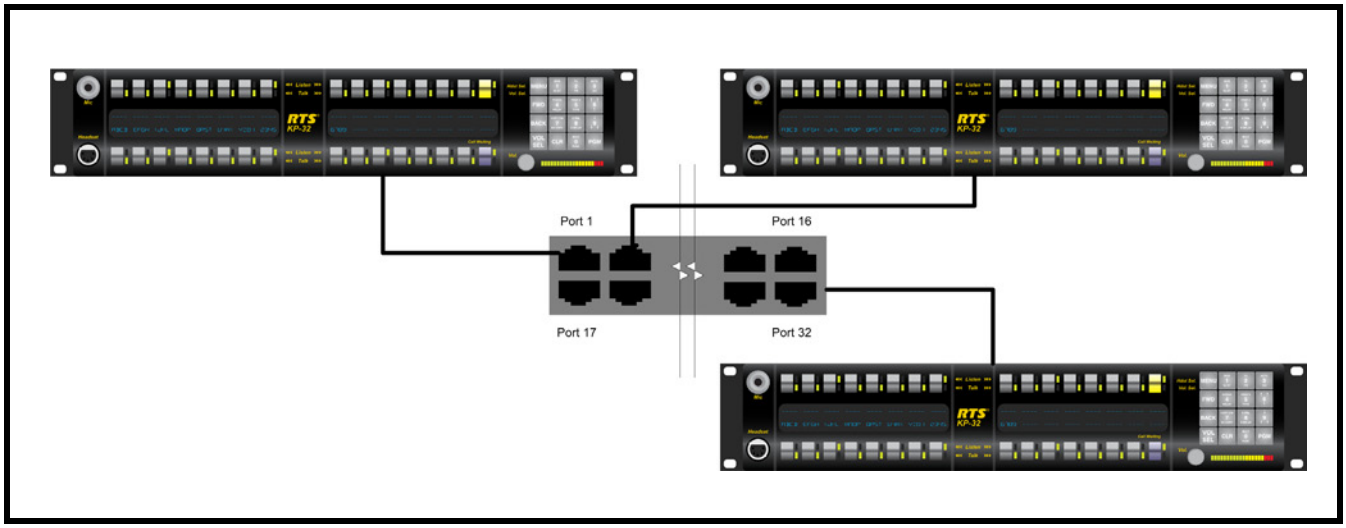


FIGURE 34. Keypanel Configuration

To **configure a typical keypanel system**, do the following:

> Using an RJ-45 keypanel cable, connect the **cable** to a keypanel port (ports 1 to 32) located on the back of the Zeus III unit.

NOTE: For the pin out of the RJ-45 keypanel cable, see Table 2 on page 15.

Trunking Configuration

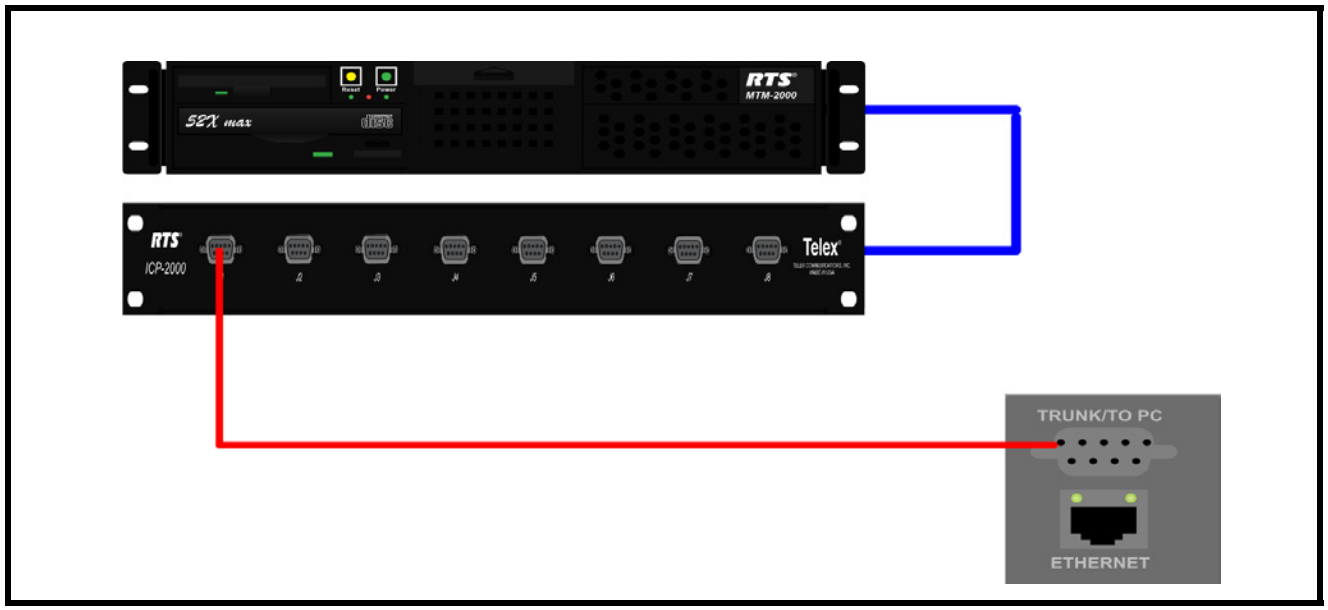


FIGURE 35. Trunking Configuration

To **configure a trunking system**, do the following:

1. Connect a **serial cable to the TRUNK/TO PC connector** located on the rear panel of the Zeus III unit.
2. Connect the other end of the **serial cable to the serial cable connector** located on the back of the MTM-2000.
3. Use **TrunkSupervisor/Editor to configure the Zeus III trunking system** (for trunking configuration information, see the TM-2000/MTM-2000 User Manual – 93507715000).

Party Line Introduction and Operation

Party Line Operation

The Zeus III integrates 32 4-wire intercom ports (ports 1 – 32) with two (2) 2-wire intercom ports (ports 33 and 34), allowing audio to pass between the 2-wire channels and 4-wire channels. Any 2-wire system can be connected directly to the Zeus III without an SSA-324 or a DSI-2008, saving the space and expense of supporting two (2) units to convert the signal.

IMPORTANT: Channels must be configured the same between products. For example, a PS-4001 connected to CH1 of the Zeus III must be set to BAL on both units.

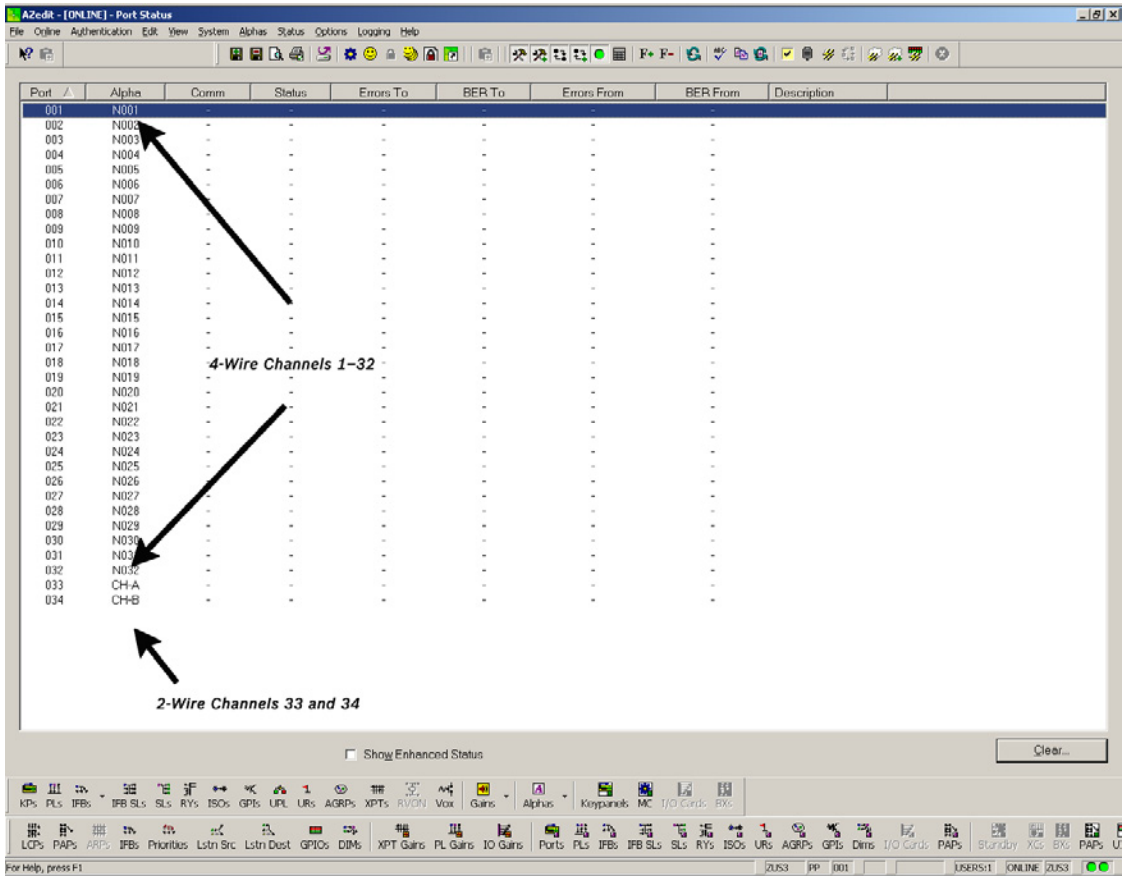


FIGURE 36. Zeus III 4-Wire and 2-Wire Port Allocation

Party Line Gain Adjustment with Zeus III

Unlike the Zeus III 4-wire channels that can have their input and output gain adjusted, the 2-wire channels (Channel A and Channel B) can only have their input gains adjusted. This is because there is a limit on the amount of gain a 2-wire device can receive (see “Specifications” on page 11), therefore a limiter between the 2-wire device and the Zeus III system limits the amount of gain received by the 2-wire device.

The range for this field is *-20dB* to *+20dB*.
The default is *0.0dB*.

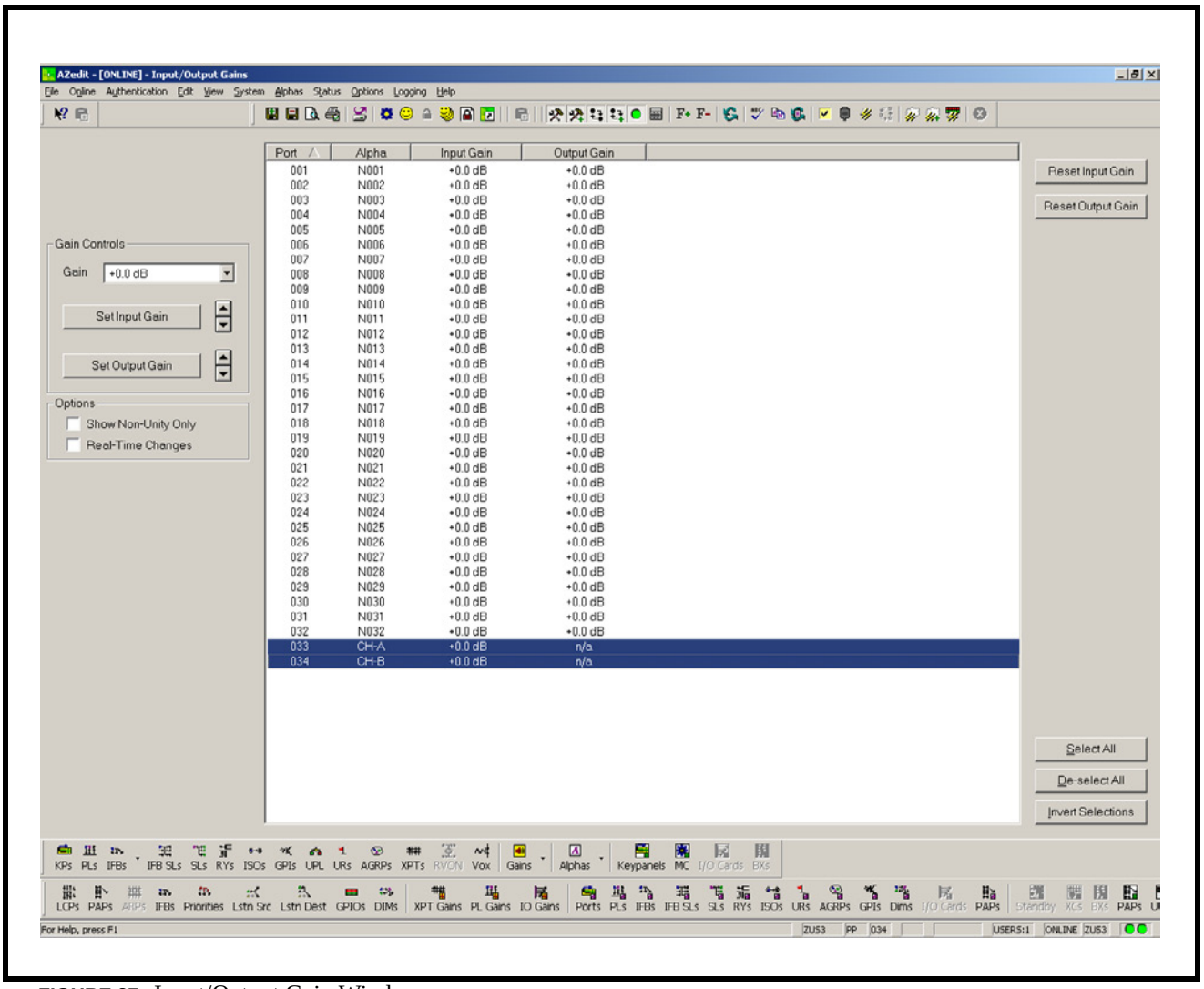


FIGURE 37. Input/Output Gain Window

To **adjust the party line input gain**, do the following:

1. From the System menu in AZedit, select **Gains**.
   A flyout menu appears.
2. From the flyout menu, select **Input/Output Gains**.
   The Input/Output Gains window appears.
3. Select the **party line channel** you want to adjust the input value (Port 33 CHA or Port 34 CHB).

NOTE: Notice in Figure 37, the Output Gain column for CHA and CHB has n/a (not available) in the output gain column.

4. From the Gain drop down menu, select the **input gain amount** you want to assign to the channel.
   OR
   Using the spinner arrows, adjust the **input gain amount** up or down.
5. Click **Set Input Gain** when you are finished.
   The input is adjusted.

Call Signalling

Zeus III party line channels (CH1 and CH2, see Figure 3 on page 13) support an integrated call signalling function controlled through the use of UPL statements in AZedit. Using a UPL statement, you can configure an indicator to activate when calls are received.

NOTE: Call signalling support is only available with AZedit version 3.6.4 and later.

To **configure incoming call signalling from a 2-wire system**, do the following:

1. In AZedit, from the System menu, select **UPL Statements**.
   The User Programmable Logic Statements window appears.

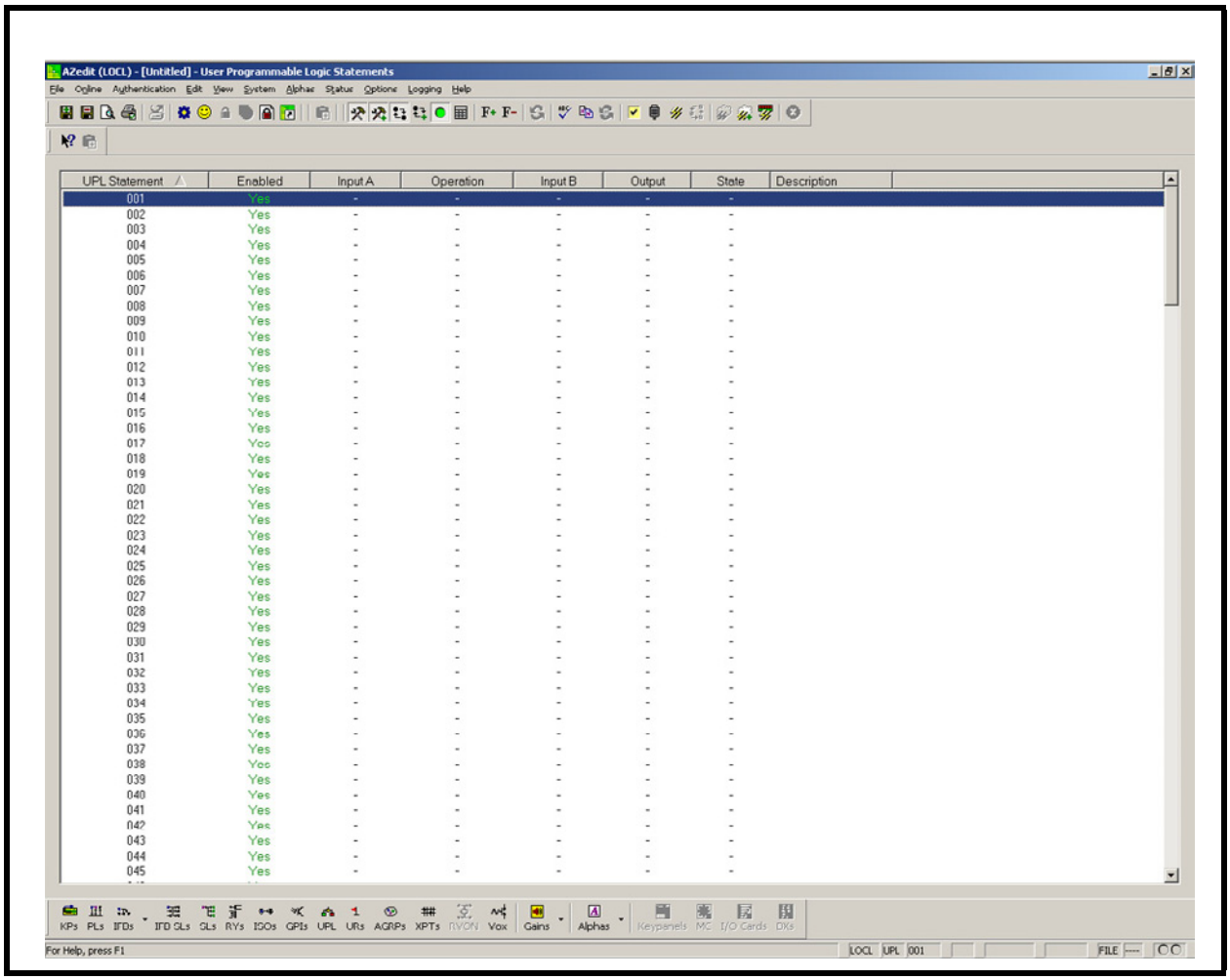

AZedit (LOCL) - [Untitled] - User Programmable Logic Statements
File Online Authentication Edit View System Alphas Status Options Logging Help
UPL Statement
Enabled
Input A
Operation
Input B
Output
State
Description
KPs PLs IFDs IFD GLs GLs RYs ISOs GPIs UPL URs AGRPs XPTs nVON Vox Gains Alphas Keypanels MC I/O Cards DKs
For Help, press F1
LOCL UPL 001
FILE

FIGURE 38. User Programmable Statements Window – AZedit

2. Double-click a **UPL Statement**.
The Edit UPL Statement window appears.

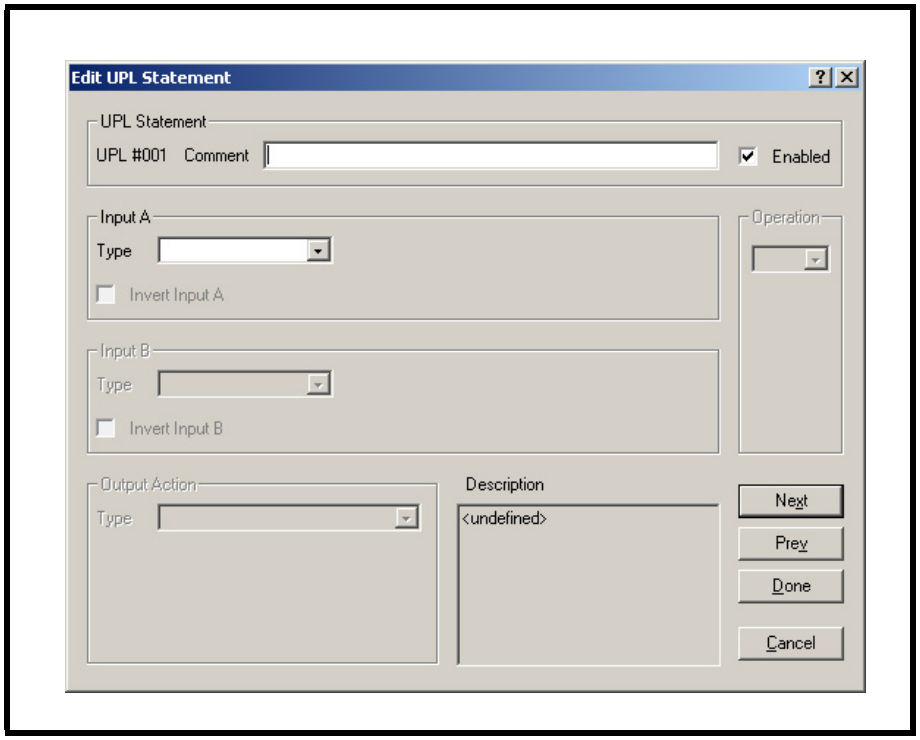


FIGURE 39. Edit UPL Statement Window – AZedit

3. In the comment field, enter an **identifiable description** for the UPL statement.
4. Select the **Enabled** check box to enable the UPL statement.

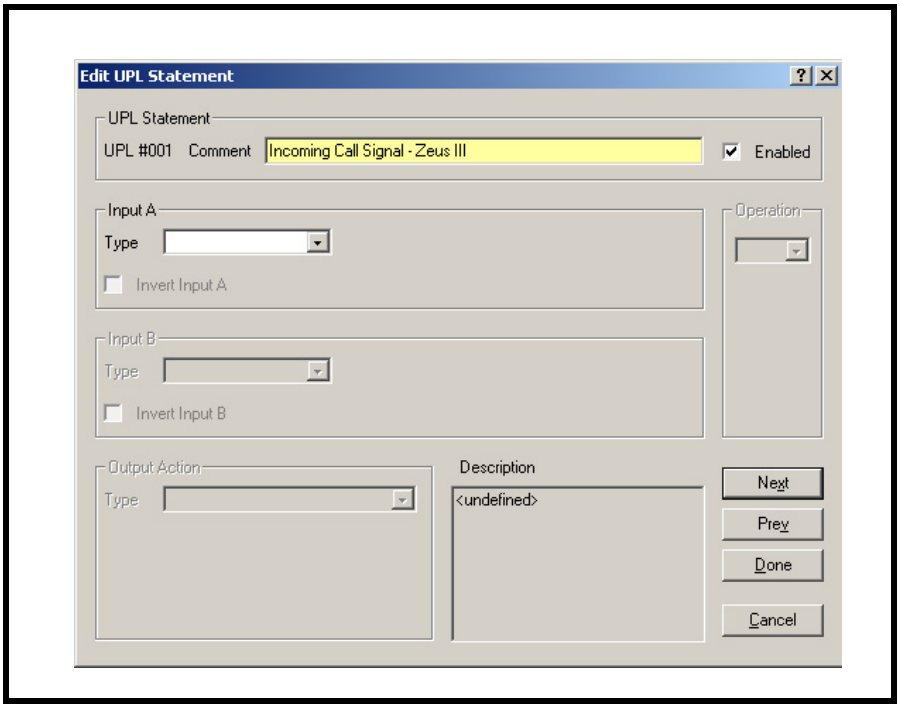


FIGURE 40. Naming the UPL Statement

5. From the Input A Type drop down menu, select **Call Signal**.
A port field and drop down menu appear.
6. In the port field, enter the **2-wire channel port**.

7. From the drop down menu, select the **channel** the 2-wire system is connected to.

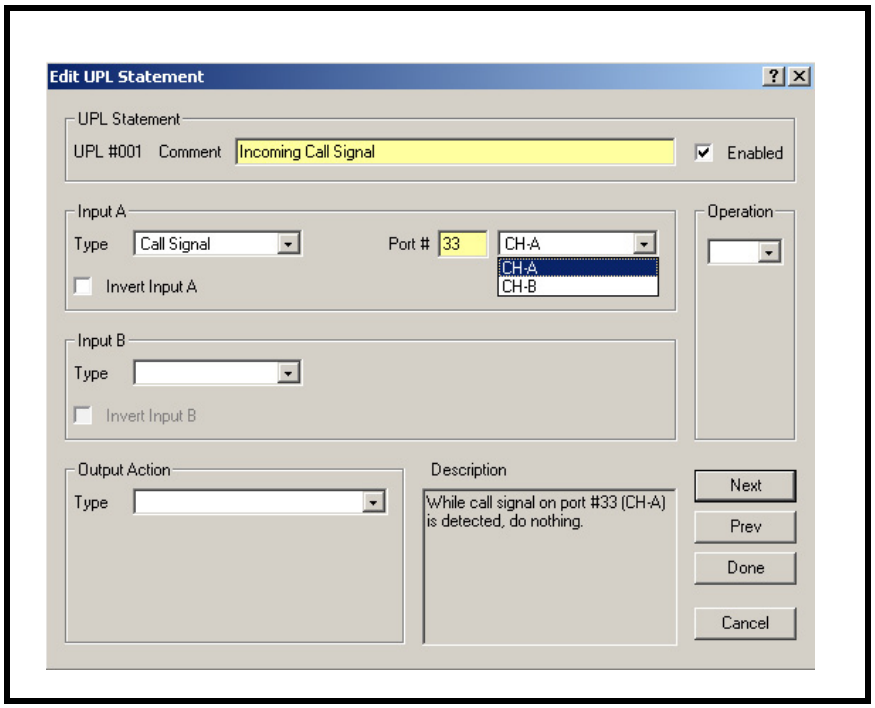


FIGURE 41. Configure the Input Action

8. In the Output Action Type drop down menu, select the **output action** you want to configure.
9. In the Port field, enter the **port number** to send the call signal.
10. From the Port drop down menu, select the **channel** you want to send the call signal.
11. Using the Duration spin box, select the **amount of time**, in seconds, the call indicator activates (*0.1 to 20 seconds*).

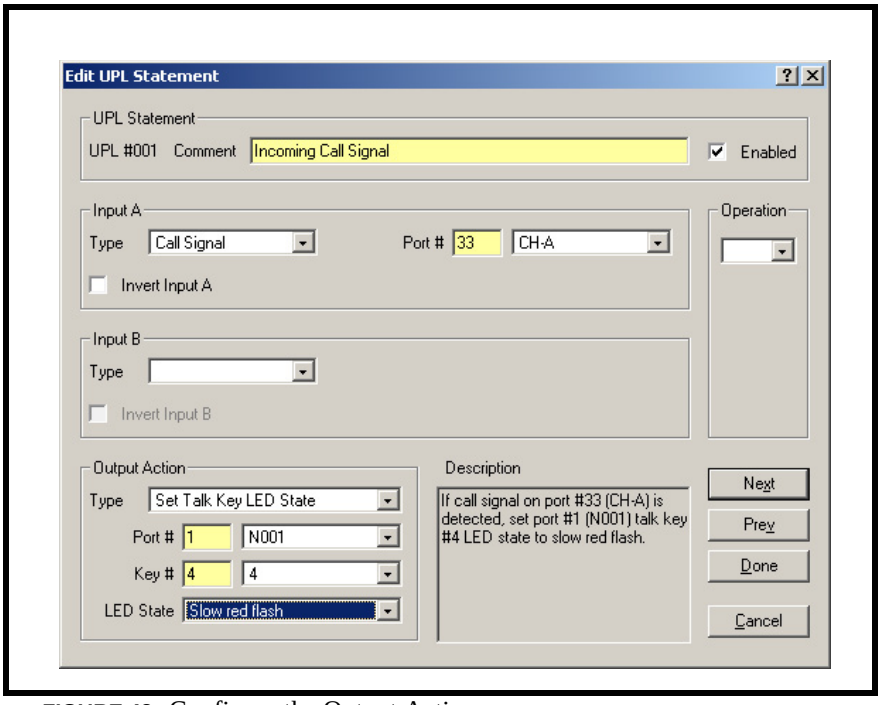


FIGURE 42. Configure the Output Action

NOTE: In the Description box, to the right of the Output Action group box, you can read a description of the UPL Statement you just created.

12. When finished, click **Done**.
The Edit UPL Statement window closes. The UPL Statement appears in the User Programmable Logic Statement window list.

NOTE: Be sure to send your changes to the intercom system.
To send changes either:

- Click the Send icon
- From the Online menu, select **Send Changes**.

NOTE: In most cases, when the input conditions for the UPL statement are true, the output action occurs. Then when the input condition ceases to be true, the output action terminates. The exceptions are Load File, Force Keys (talk and listen), and Force Headset Transfer. When a UPL statement loads a file, there is no way to "unload" the file when the UPL statement is no longer true. When a talk or listen key is forced ON, or a headset is force ON, with a UPL statement, you must use a second UPL statement to force the keys or headset OFF.

The **VOX** window, shown in Figure 43, is used to configure Vox on ports in your intercom system. VOX is an audio threshold level you set at the point a channel becomes active. When the threshold is set, a channel does not activate until the preset audio level is attained. This prevents a channel from staying on when no one is around in a high activity area.

NAVIGATION: From the menu bar, select **System|Vox**.

NOTE: Remember to send any changes you make to the intercom system using *Edit|Send Changes* or the Activate button.

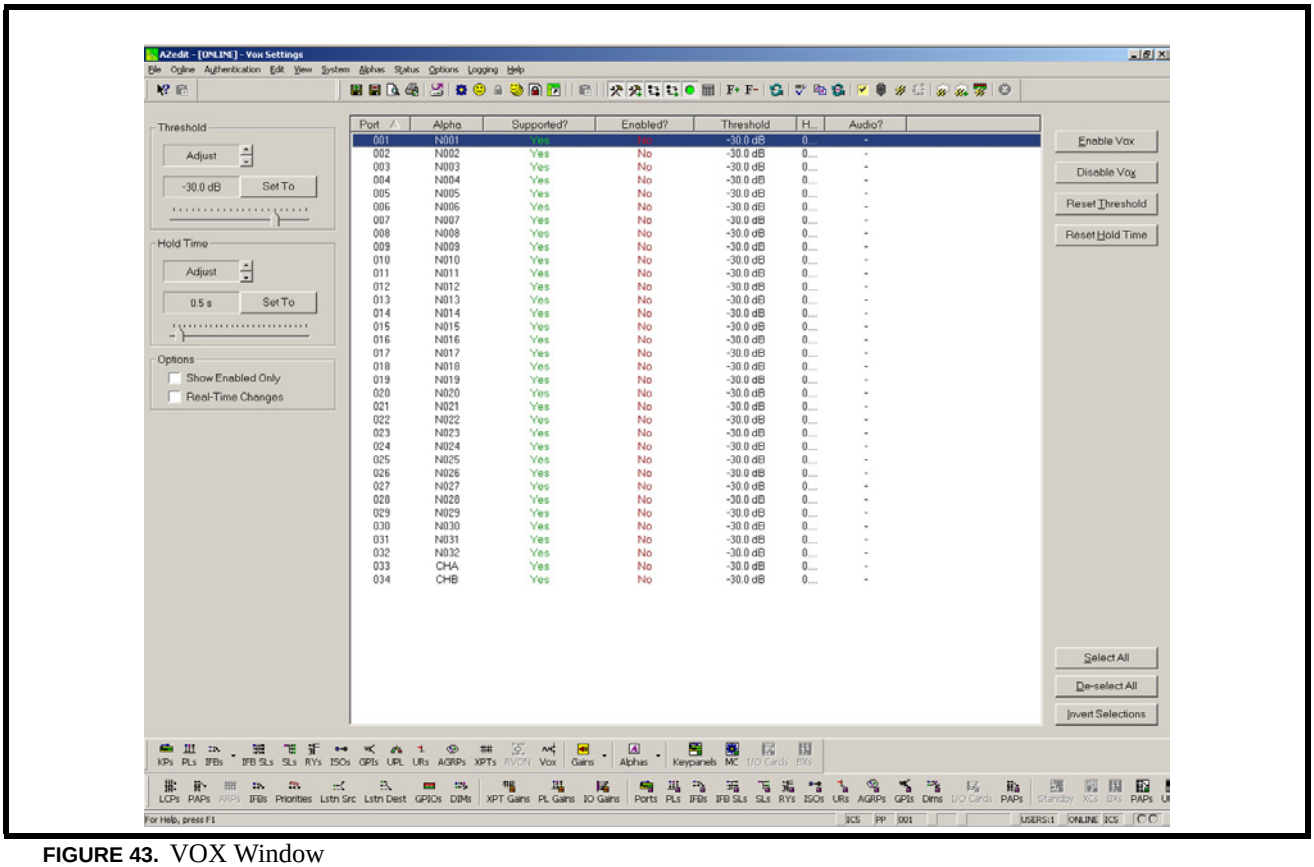


FIGURE 43. VOX Window

Threshold Group Box

Adjust Box

The **Adjust** box is used to fine tune the VOX threshold level, in dB, for the port after using the Set To slider. Use the adjustment arrows to increase or decrease the VOX threshold level in *.5dB* increments.

The range for this field is *–126dB* to *0.0dB*.

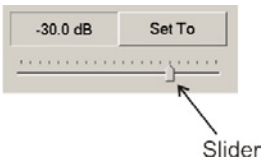
NOTE: The threshold change is only seen in the Threshold column to the right.

Set To Button and Slider

The **Set To** button and **Slider** is used to quickly get to the approximate threshold level, in dB, you want to set for the port. Once you have used the slider, click the **Set To** button to set the level for the port. Use the Adjust arrows to fine tune the threshold level.

To **use the threshold slider**, do the following:

1. Click and hold the **slider**.
2. Drag the **slider** left to decrease the threshold amount or right to increase the threshold amounts.



Hold Time Group Box

Adjust Box

The **Adjust** box is used to fine tune the hold time, in seconds, for the port after using the Set To slider. Use the adjustment arrows to increase or decrease the VOX threshold level in *.1 second* increments.

The range for this field is *.02 seconds* to *12.5 seconds*.

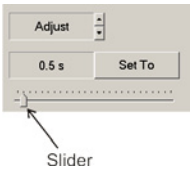
NOTE: The time change is only seen in the Hold Time column to the right.

Set To Button and Slider

The **Set To** button and **Slider** is used to quickly get to the approximate hold time you want to set for the port. Once you have used the slider, click the **Set To** button to set the time for the port. Use the Adjust arrows to fine tune the hold time.

To **use the hold time slider**, do the following:

1. Click and hold the **slider**.
2. Drag the **slider** left to decrease the hold time amount or right to increase the hold time amount.



Options Group Box

Show Enabled Only Check Box

The **Show Enabled Only** check box is used to show vox enabled ports only. This feature is used to quickly view ports with vox enabled. If this check box is not selected, all available ports are shown.

Real-Time Changes Check Box

The **Real-Time Changes** check box is used to make changes to the vox threshold in real time. When selected and in ONLINE mode, vox changes are automatically sent to the intercom system as you make the adjustments.

Port Column

The **Port** column displays all available ports in the intercom.

Alpha Column

The **Alpha** column displays the alphas for all the available ports in the intercom.

Supported? Column

The **Supported?** column displays whether vox is supported on the intercom port. If vox is supported on the port, a green Yes appears in the column. If vox is not supported on the port, a red No appears in the column.

Enabled? Column

The **Enabled?** column displays whether vox is enabled on the specified port. If vox is enabled on the port, a green Yes appears in the column. If vox is not supported on the port, a red No appears in the column.

To enable vox on the port, do the following:

> Highlight the port or ports you want to enable, and then click **Enable Vox**.

NOTE: You can also enable vox from the Keypanel/Port Configuration Window.

Threshold Column

The **Threshold** column displays the audio level, in dB, at which vox activates on the port.

Hold Time Column

The **Hold Time** column displays the time, in seconds, the port waits for the presence of audio before turning off.

Audio? Column

The **Audio?** column indicates if audio is present on the port. If audio is present, a green Yes displays in the column. If there is not audio on the port, a red No appears in the column.

Enable Vox Button

The **Enable Vox** button is used to enable vox on the selected port or ports. You can also use the Vox page in the Keypanel/Port Configuration window to enable or disable vox on a port.

NOTE: To select more than one port to enable, do one of the following:

- To select random ports, press and hold the **Ctrl** key and click the **ports** you want to select.
- To select a block of ports, click the **top-most port in the block**; press and hold the **Ctrl + Shift**; press the **bottom-most port in the block**.
  All the ports in between the top and bottom port are selected.

Disable Vox Button

The **Disable Vox** button is used to disable vox on the selected port or ports. You can also use the Vox page in the Keypanel/Port Configuration window to enable or disable vox on a port.

NOTE: To select more than one port to disable, do one of the following:

- To select random ports, press and hold the **Ctrl** key and click the **ports** you want to select.
- To select a block of ports, click the **top-most port in the block**; press and hold the **Ctrl + Shift**; press the **bottom-most port in the block**.
  All the ports in between the top and bottom port are selected.

Reset Threshold Button

The **Reset Threshold** button is used to return the threshold levels of the selected port or ports to the default level.

The default threshold level is *-30.0dB*.

NOTE: To select more than one port to reset, do one of the following:

- To select random ports, press and hold the **Ctrl** key and click the **ports** you want to select.
- To select a block of ports, click the **top-most port in the block**; press and hold the **Ctrl + Shift**; press the **bottom-most port in the block**.
  All the ports in between the top and bottom port are selected.

Reset Hold Time Button

The **Reset Hold Time** button is used to return the hold time for the selected port or ports to the default time.

The default hold time is *0.5 seconds*.

NOTE: To select more than one port to reset, do one of the following:

- To select random ports, press and hold the **Ctrl** key and click the **ports** you want to select.
- To select a block of ports, click the **top-most port in the block**; press and hold the **Ctrl + Shift**; press the **bottom-most port in the block**.
  All the ports in between the top and bottom port are selected.

Select All Button

The **Select All** button highlights all of the items from the Available or Selected list.

De-Select All Button

The **De-select All** button de-selects any selected items from the Available or Selected list.

Invert Selections Button

The **Invert Selections** button reverses the selections in the current view. For example, if ports 1 through 5 are highlighted, while ports 6 through 10 are not, when the Invert Selection button is clicked, ports 1 through 5 are deselected and ports 6 through 10 become highlighted.

APPENDIX A

Changing the IP Properties on your PC

IMPORTANT: Before you change any network settings on your computer, please make note of the current settings.

NOTE: The following instructions are for Microsoft XP operating system and may differ slightly for other operating systems.

To **change the IP properties on your PC**, do the following:

1. Disable any **Ethernet connections** on the PC you want to alter the IP Properties for.
2. From the Windows Start menu, select **Settings**.
   A flyout menu appears.

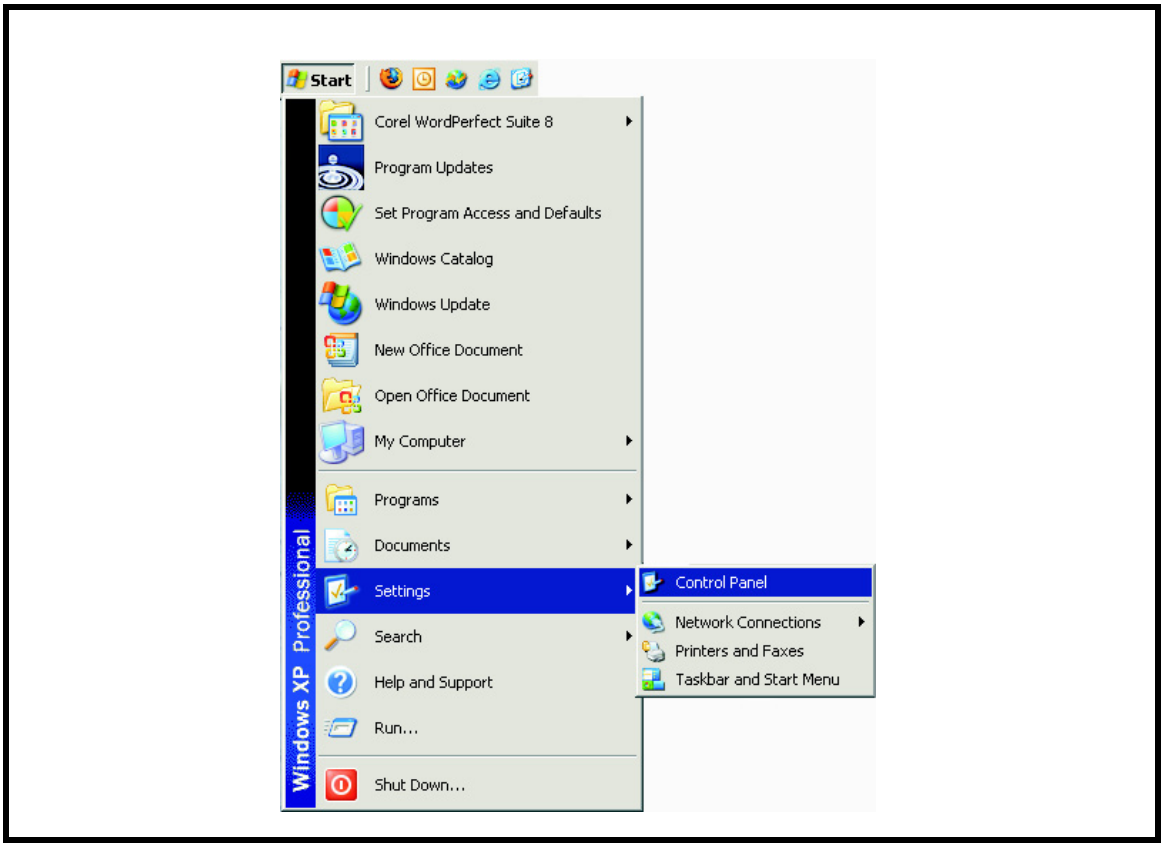


FIGURE 44. Open the Control Panel Window

3. From the flyout menu, select **Control Panel**.
   The Control Panel window appears.
4. Double-click **Network Connections**.
   The Network Connections window appears.
5. Right-click the **Local Area Connection**.
6. Select **Properties**.
   The Local Area Connection Status window appears.

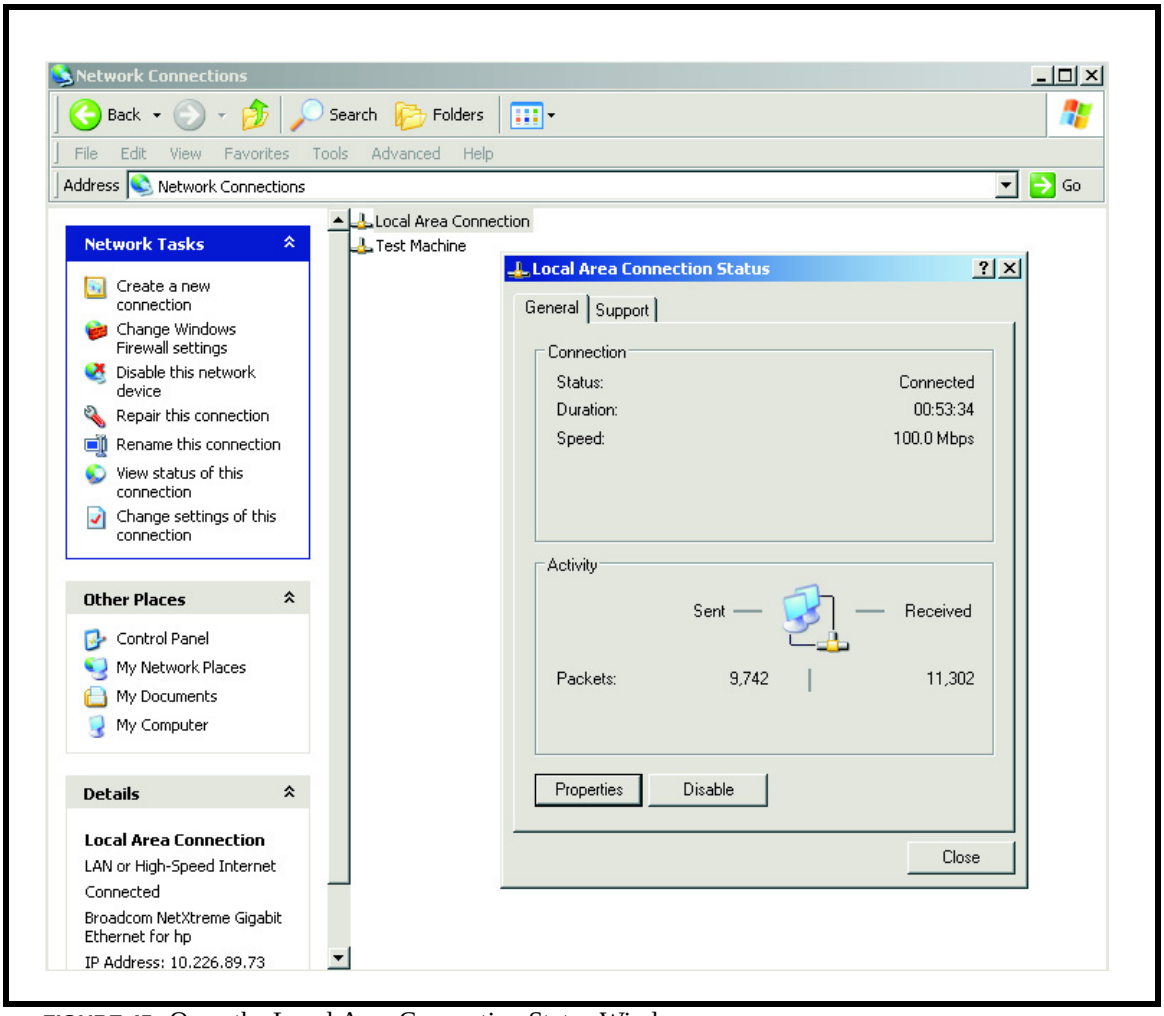


FIGURE 45. Open the Local Area Connection Status Window

7. Click **Properties**.
The Local Area Connection Properties window appears.

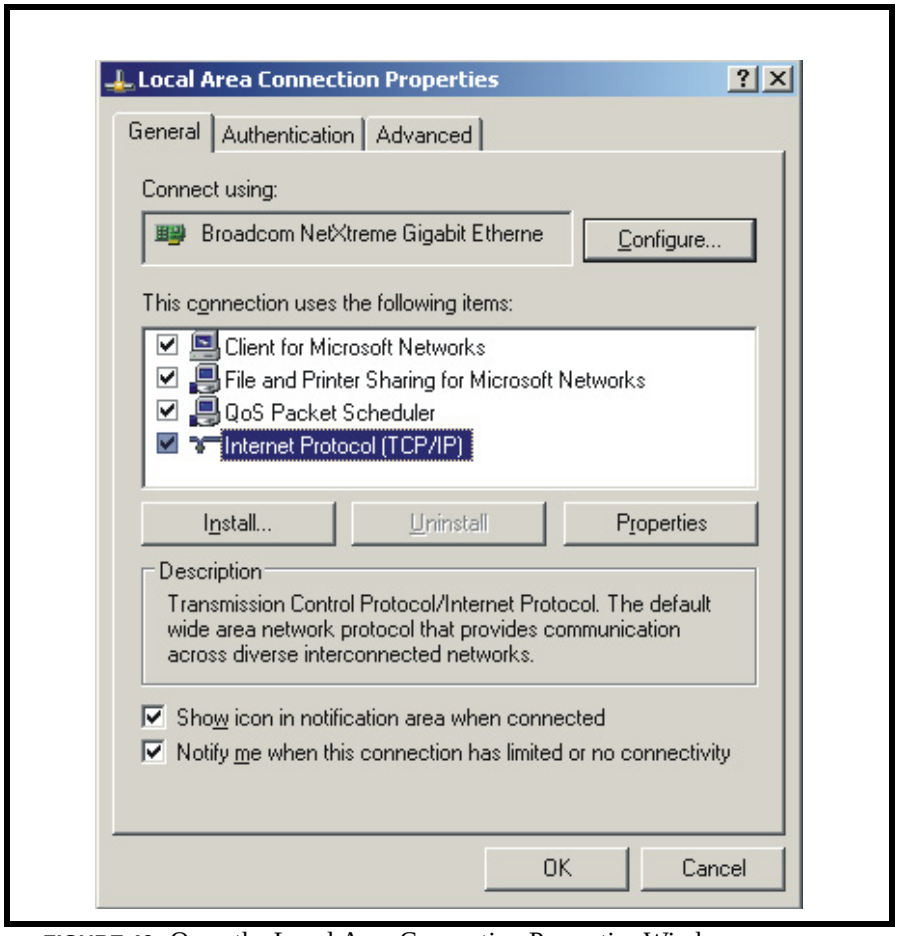


FIGURE 46. Open the Local Area Connection Properties Window

8. Select **Internet Protocol (TCP/IP)** from the connection list.
9. Click **Properties**.
The Internet Protocol (TCP/IP) Properties window appears.

TIP: Remember to note the current settings.

10. Select the **Use the following IP address** radio button.
The corresponding IP Address fields become active.

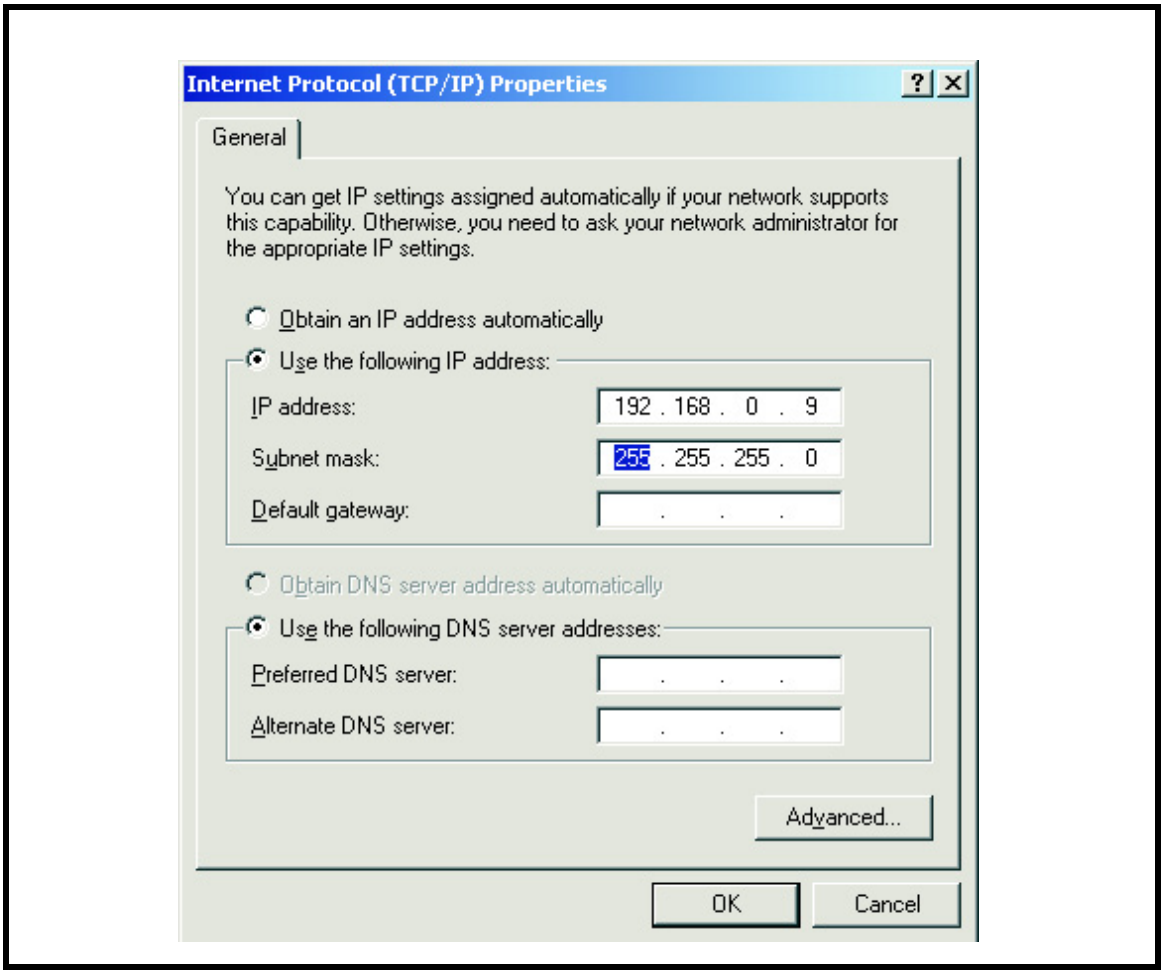

Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 9
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

FIGURE 47. Enter the IP Address of the Zeus III.

11. In the IP address field, enter the **IP Address** you want to configure for the Zeus III, if desired.
12. In the Subnet mask field, enter the **Subnet Mask** you want to configure the Zeus III, if desired.
13. In the Default gateway field, enter the **Gateway Address** you want to configure for the Zeus III, if desired.
14. Click **OK**.
The IP (TCP/IP) Properties window closes.
15. Click **OK**.
The Local Area Connection Properties window closes and the IP Address has been changed.

APPENDIX B

UPL Resource Guide

UPL (User Programmable Language) is a powerful feature which lets you quickly and easily program the intercom system to perform output actions you specify based on input conditions you specify. The UPL Statements window displays information concerning the UPL statements configured for your intercom system.

EXAMPLE: You can program the intercom system to load a new setup file at a specified time or load whenever someone presses a particular keypanel key. On the other hand, you can program talk and listen path to turn on or off at specified times. Using UPL Statements Setup, you can build the custom operations quickly and easily to get the most out of your intercom system.

Use the Edit UPL Statement window to create your customized UPL statements.

To **access the Edit UPL Statements window**, do the following:

1. From the Alphas menu, select **UPL Statements**.
   The User programmable Logic Statements window appears.
2. Double-click the **UPL Statement** you want to create.
   The Edit UPL Statement window appears.

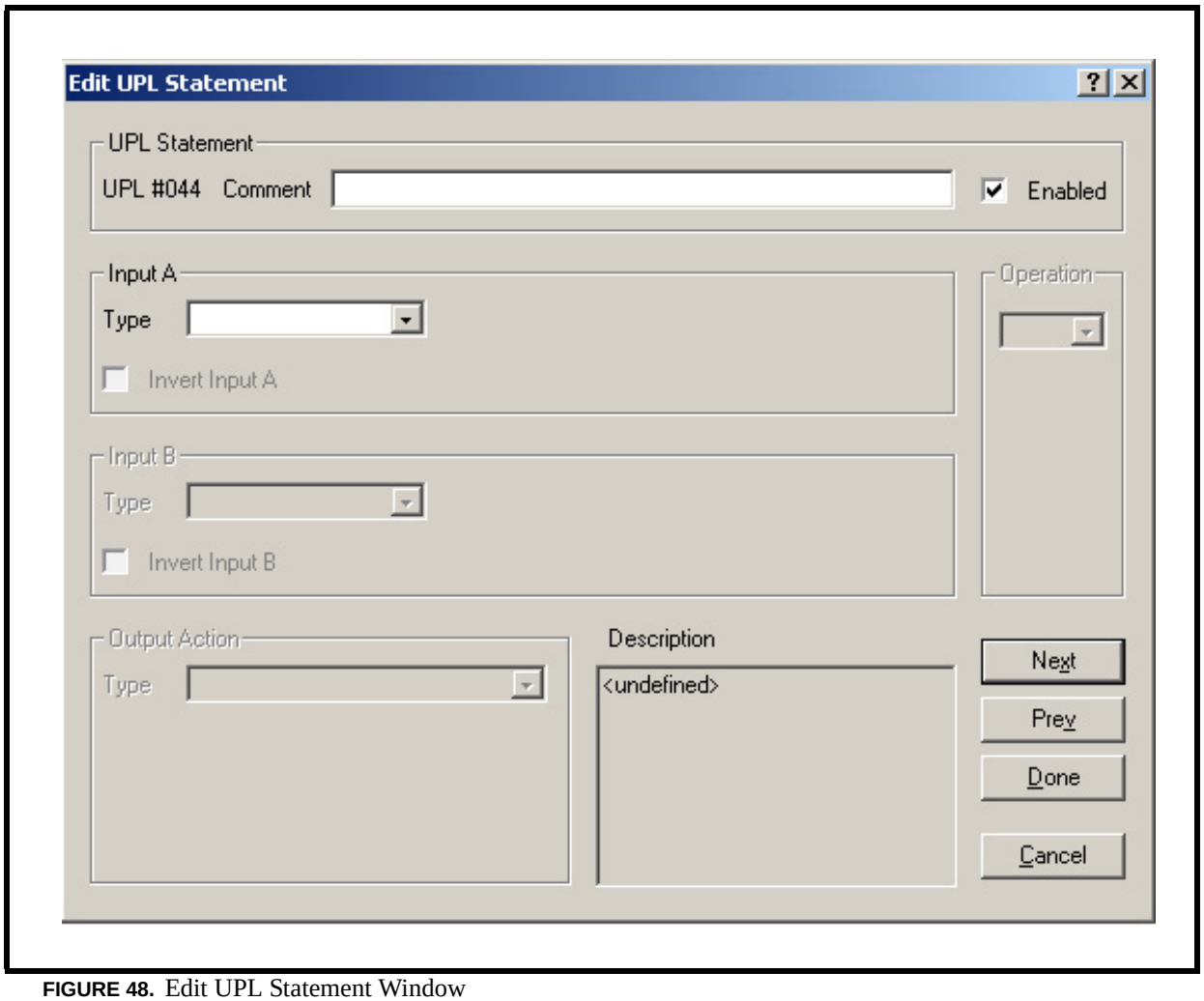


FIGURE 48. Edit UPL Statement Window

UPL Statement Group Box

Comment Field

The **Comment** field is used to enter a description or comment about the current UPL statement.

This field can contain up to 32 characters.

Enabled Check Box

The **Enabled** check box indicates the UPL statement is enabled and ready to use. Clear the check box to disable the UPL statement, but not delete it.

Input A Group Box

Type and Variable Drop Down Menu

The **Type and Variable** drop down menu is used to select an input condition that causes the intercom system to perform an output action. Each UPL statement can have either one (1) or two (2) input conditions. Depending on which is selected from the Type drop down menu, dictates what variable is needed.

Use Table 12 on page 61 to determine the type and variables you want to use.

TABLE 12. Input A and Variables

Input Condition	Input Description	Variables Needed
UPL Statement	If a specified UPL statement is true...	UPL Statement # and Description
GPI Input	If a system GPI Input is activated....	GPI Input # and Alpha
GPI Input (Local)	If a Local GPI Input is activated...	Port # and Alpha GPI Input # and Alpha
GPI Output	If a system GPI Output is activated...	GPI Output # and Alpha
GPI Output (Local)	If a Local GPI Output is activated...	Port # and Alpha GPI Output # and Alpha
Talk Key	If a specified Talk Key on a keypanel is ON...	Port # and Alpha Key #
Listen Key	If a specified Listen Key on a keypanel is ON...	Port # and Alpha Key #
UPL Resource	If a UPL Resource key is activated...	UPL Resource # and Description
Crosspoint	If a specified Crosspoint is activated...	Input # and Alpha Output # and Alpha
Input Talking	If a specified port is talking to anyone...	Input # and Alpha
Output Listening	If a specified port is listening to anyone...	Output # and Alpha
Headset Transfer	If the Headset Transfer switch on a keypanel is activated...	Port # and Alpha
Current Date	If the Current Date is...	Year, Month, and Day (YY/MM/DD). **NOTE:** You must use the Operator drop down menu when using the Date and/or Time input.
Current Time	If the Current Time is...	Hour, Minute, Second (00:00:00) All times are entered in the 24-hour or military time format. For example, 1:00 pm is 13:00:00. **NOTE:** You must use the Operator drop down menu when using the Date and/or Time input.
IFB Interrupted	If the specified IFB is interrupted...	IFB # and Alpha
Counter	If the Counter is... **NOTE:** Counters count increments of time. Each counter is equal to 100ms of time. AZedit allows for up to 256 counters to be used. The counter input selection is used to write UPL statements to occur in a timed event. For example, when a key is pushed, wait 10 seconds before running the UPL statement to turn a light ON.	Counter # **NOTE:** You must use the Operator drop down menu when using the Counter input.
Vox Audio	If the Vox Audio is...	Input # and Alpha
Any Talk Key	If Any Talk Key is on a keypanel is ON....	Port # and Alpha
Call Signal	If a call signal is detected....	Port # and Alpha

Invert Input A Check Box

The **Invert Input A** check box is used to reverse the input condition.

For example, if the input condition is *Talk Key*, which by itself means, when a specified talk key is on, run the assigned output. However, by selecting the Invert Input A check box, it means a specified talk key is off, run the assigned output.

The invert check box is often used in one UPL statement to cancel an action caused by some other UPL statement.

Operation Group Box

Operation Drop Down Menu

The **Operation** drop down menu is used to select the type of operator to use when joining Input A and Input B or when using the Current Date, Current Time, or the Counter input for Input A. In all other cases, the Operation drop down menu is not used.

NOTE: **Operators**, also known as logical operators, are used to construct more complex searches in a database. They help make a search more accurate. There are three (3) logical operators: AND, OR and NOT.Operators for Two Input Conditions

Operator	Description
AND	If input A and input B are both true....then run the specified output.
OR	If input A or input B (or both) are true....then run the specified output.
XOR	If input A or input B (but not both) are true....then run the specified output.

Operators for Current Date and Current Time

Operator	Description
=	If the current date or time equals...
! =	When the current date or time does not equal...
<	When the current date or time is earlier than...
> =	When the current date or time is equal to or later than...
>	When the current date or time is later than...
< =	When the current date or time is equal to or earlier than...

Example: Operators for current time have a 5-second window. For example, if you create a test for a specific time (i.e., = 12:00:00), the given time is matched for a 5-second window. It returns a true result for the time 12:00:00 through 12:00:05. A test for inequality returns true for all but this 5-second window.

Input B Group Box

Type and Variable Drop Down Menus

The **Type** and **Variable** drop down menu is used to select an input condition that causes the intercom system to perform an output action. Each UPL statement can have either one (1) or two (2) input conditions. Depending on which is selected from the Type drop down menu.

Use Table 13 on page 63 to determine the type and variables you want to use.

TABLE 13. Input B Types and Variables

Input Condition	Input Description	Variables Needed
UPL Statement	If a specified UPL statement is true...	UPL Statement # and Description
GPI Input	If a system GPI Input is activated....	GPI Input # and Alpha
GPI Input (Local)	If a Local GPI Input is activated...	Port # and Alpha GPI Input # and Alpha
GPI Output	If a system GPI Output is activated...	GPI Output # and Alpha
GPI Output (Local)	If a Local GPI Output is activated...	Port # and Alpha GPI Output # and Alpha
Talk Key	If a specified Talk Key on a keypanel is ON...	Port # and Alpha Key #
Listen Key	If a specified Listen Key on a keypanel is ON...	Port # and Alpha Key #
UPL Resource	If a UPL Resource key is activated...	UPL Resource # and Description
Crosspoint	If a specified Crosspoint is activated...	Input # and Alpha Output # and Alpha
Input Talking	If a specified port is talking to anyone...	Input # and Alpha
Output Listening	If a specified port is listening to anyone...	Output # and Alpha
Headset Transfer	If the Headset Transfer switch on a keypanel is activated...	Port # and Alpha
Target Date	If the Target Date is...	Year, Month, and Day (YY/MM/DD). **NOTE:** Target Date is used in conjunction with Current Date.
Target Time	Target Time is used in conjunction with Current Time.	Hour, Minute, Second (00:00:00) **NOTE:** All times are entered in the 24-hour or military time format. For example, 1:00 pm is 13:00:00. **NOTE:** Target Time is used in conjunction with Current Time.
IFB Interrupted	If the specified IFB is interrupted...	IFB # and Alpha
Target Value	Target Value is used in conjunction with the Counter input. **NOTE:** Automatically switches input A to Counter.	The target value is an increment of time, in ms, to trigger an event. 1 counter equals 100ms. The counter input selection is used to write UPL statements to occur in a timed event. For example, when a key is pushed, wait 10 seconds before running the UPL statement to turn a light ON.
Vox Audio	If Vox Audio is...	Input # and Alpha
Any Talk Key	If Any Talk Key is on a keypanel is ON....	Port # and Alpha
Call Signal	If a Call Signal is detected	Port # and Alpha

Invert Input B Check Box

The **Invert Input B** check box is used to reverse the input condition.

For example, if the input condition is “Talk Key”, which by itself means, when a specified talk key is on, run the assigned output. However, by selecting the Invert Input A check box, it means changes to when a specified talk key is off, run the assigned output.

The invert check box is often used in one UPL statement to cancel an action caused by some other UPL statement.

Output Action Group Box

Type and Variable Drop Down Menus

The **Type and Variable** drop down menu is used to select an output result that occurs when an input definition is met. Depending on which is selected from the **Type** drop down menu, dictates what variable is needed.

Use Table 14 on page 64 to determine the type and variables you want to use.

TABLE 14. Output Values

Output	Output Description	Variables Needed
Close Crosspoint	Close the crosspoint from the specified input to the specified output	Input Number, Alpha, Output Number, Alpha
Inhibit Crosspoint	Open the crosspoint from the specified input to the specified output.	Input Number, Alpha, Output Number, Alpha
Assert GPI Output	Activate the specified System GPI Output	GPI Output Number and Alpha
Inhibit GPI Output	Deactivate the specified System GPI Output	GPI Output Number and Alpha
Assert GPI Output (Local)	Activate the specified Local GPI Output	Port Number and Alpha, GPI Output Number and Alpha
Inhibit GPI Output (Local)	Deactivate the specified Local GPI Output	Port Number and Alpha, GPI Output Number and Alpha
Force Talk Key Closure	Force the specified talk key ON	Port Number, Alpha and Key Number
Force Talk Key Open	Force the specified talk key OFF	Port Number, Alpha and Key Number
Dim Crosspoint Volume	Cause the specified output to hear the specified input at a reduced volume level.	Input Number, Alpha, Output Number, Alpha and DIM amount (-1.0dB to -72.2dB, and Mute)
Load File	Cause a file to be loaded from disk and sent to the intercom system. **NOTE:** AZedit must be in SERVER mode.	The Load File pulls files from the directory you have configured on the General page in the Preferences window.
Force Listen Key Closure	Force the specified listen key ON	Port Number, Alpha, and Key Number
Force Listen Key Open	Force the specified listen key OFF	Port Number, Alphas, and Key Number
Clear Counter	Clear the Counter	Clears the counter input from the UPL statement. If you select 0 all counters are cleared
Inhibit Output	Open the output port.	Output Port Number, and Alpha

TABLE 14. Output Values

Output	Output Description	Variables Needed
Inform Command Line Protocol	THIS IS NOT CONFIGURABLE FROM AZEDIT. This option is used by command line protocol only. When a query is sent from the command line protocol to AZedit, a UPL statement is written with "Inform Command Line Protocol" as the output. This can be used to monitor the query sent from the command line protocol. For more information, contact customer service.	
Set Headset Transfer State	Set the Headset to the specified state.	Port Number, Alpha, Headset State Headset state selections are: *Turn Headset transfer OFF* *Turn Headset transfer ON* *Force Headset transfer OFF* *Force Headset transfer ON* *Release Headset transfer* **NOTE:** The difference between Turn and Force is when force is used the user cannot change the headset transfer once the transfer is complete.
Set Talk Key LED State	Set the Talk Key LED State	Port Number, Alpha, Key, and LED State LED state selections are: *Local Control* *Solid Red* *Solid Green* *Solid Amber* *Slow Red Flash* *Slow Green Flash* *Fast Red Flash* *Fast Green Flash* *Slow Red Wink* *Slow Green Wink*
Set Listen Key LED State	Set the Listen Key LED State	Port Number, Alpha, Key, and LED State LED state selections are: *Local Control* *Solid Red* *Solid Green* *Solid Amber* *Slow Red Flash* *Slow Green Flash* *Fast Red Flash* *Fast Green Flash* *Slow Red Wink* *Slow Green Wink*

TABLE 14. Output Values

Output	Output Description	Variables Needed
Set IFB Program Input	Set the Program Input Port for an IFB assignment.	IFB Number, Alpha, Input Port Number, and Alpha **NOTE:** If you set the Input Port Number to 0, you are assigning no input port.
Start Paging System Macro	Send a signal over a serial connection to a paging system to start a macro. **NOTE:** The macro is stored in the paging system. AZedit sends an event to trigger the macro on the Paging System.	Macro Number
Stop Paging System Macro	Send a signal over a serial connection to a paging system to end the macro. **NOTE:** The macro is stored in the paging system. AZedit sends an event to trigger the macro on the Paging System	Macro Number
Generate Call Signal	Sends a call signal to the specified port	Port #, Alpha, and Signal Duration
Generate Mic Kill	Sends a mic kill signal	Port #, Alpha, and Signal Duration

NOTE: In most cases, when the input conditions for the UPL statement are true, the output action occurs. Then, when the input condition ceases to be true, the output action terminates. The exceptions are Load File, Force Keys (talk and listen), and Force Headset Transfer. When a UPL statement loads a file, there is no way to unload the file when the UPL statement is no longer true. When a talk or listen key is forced on, or a headset is force on, with a UPL statement, you must use a second UPL statement to force the keys or headset off.

Description Field

The **Description** field displays a plain-text description of the UPL statement you build. You can use this description to verify the UPL statement is constructed to run as anticipated.

Notes